SUPREME COURT OF THE UNITED STATES.

No. 317.

JEREMIAH CARHART AND ELIAS P. NEEDHAM, APPELLANTS,

vs.

CHARLES AUSTIN.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE DISTRICT OF ~~MASSACHUSETTS~~ New Hampshire.

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1 THE UNITED STATES OF AMERICA, *District of New Hampshire, ss:*

At a circuit court of the United States begun and holden at Exeter, within and for the district of New Hampshire, on the ninth day of October, in the year of our Lord one thousand eight hundred and sixty-five—

Present: The honorable Nathan Clifford and the honorable Matthew Harvey, judges of said court.

JEREMIAH CARHART and ELIAS P. NEEDHAM
vs.
CHARLES AUSTIN.

The bill of complaint in this cause is filed in the clerk's office, on the thirtieth day of July, A. D. 1862, and duly entered at the circuit court next thereafter, holden at Exeter, within and for our said district, on the eighth day of October, A. D. 1863, in the words and figures following, to wit:

Bill of Complaint.

To the judges of the circuit court of the United States for the first circuit within and for the district of New Hampshire:

Jeremiah Carhart and Elias P. Needham, citizens of the United States, bring this their bill against Charles Austin, of Concord, in said district of New Hampshire, manufacturer; and thereupon your orators complain and say that heretofore and before the twenty-eighth day of December, A. D. 1846, the said Jeremiah Carhart, being then a citizen of the United States, was the original and first inventor or discoverer of certain new and useful improvements in musical instruments; that being such inventor or discoverer, the said Carhart made application in writing to the Commissioner of Patents of the United States for the granting of letters patent for said improvements, and duly swore to the specifications for that purpose; that the said improvements were not, at the time of said application, in public use or on sale with the consent or allowance of said Carhart as the inventor or discoverer thereof, contrary to the statutes of the United States in such case made and provided; nor were the same known or used by others anterior to the invention or discovery thereof

2 by the said Carhart; that the said Carhart duly complied in all respects with all the necessary conditions and requirements of the statutes of the United States in such case made and provided, prior to the granting of the letters patent hereinafter mentioned; that on the twenty-eighth day of December, A. D. 1846, letters patent of the United States, bearing date on that day, were issued to the said Carhart according to law, whereby there was granted to him, his heirs, administrators, or assigns, for the term of fourteen years from the said twenty-eighth day of December, A. D. 1846, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the improvements in musical instruments aforesaid, a description whereof was given in the words of the said Carhart, in the schedule annexed to the said letters patent, and was made part of the same; that the said letters patent were issued

in the name of the United States, and were sealed with the seal of the Patent Office of the United States, and were signed by the Secretary of the Interior, and were countersigned by the Commissioner of Patents, and were issued and delivered to the said Carhart; that before the said Carhart obtained the said letters patent, he did, in accordance with the requirements of the statutes in that behalf, deliver to the Commissioner of Patents a written description of the said improvements in musical instruments, and of the manner and process of making, constructing, and using the same, and did accompany the said description with drawings and models of the said invention or improvements, which said description was signed and sworn to by the said Carhart, and attested to by two witnesses, and filed in the said Patent Office.

And your orators further show unto your honors, that heretofore and before the twenty-fourth day of June, A. D. 1856, the letters patent aforesaid being inoperative by reason of defective and insufficient description and specification, arising out of inadvertency and mistake, but without any fraudulent or deceptive intention on the part of the said Carhart, was by him duly surrendered according to law to the Commissioner of Patents of the United States, and by the said Commissioner cancelled; and thereupon the said Commissioner, upon the payment of fifteen dollars and the filing of amended description and specification by the said Carhart in the Patent Office, caused new letters patent of the United States, bearing date the twenty-
3 fourth day of June, A. D. 1856, to be issued to the said Carhart for the same invention, and for the residue of the period then unexpired for which the original patent was granted, and in accordance with the amended and corrected description and specification, which were given in the words of the said Carhart, in the schedule annexed to the letters patent last aforesaid, and was made part of the same; that the last-mentioned letters patent were issued in the name of the United States, and were sealed with the seal of the Patent Office, and were signed by the Secretary of the Interior, and were countersigned by the Commissioner of Patents, and were issued and delivered to the said Carhart; that before the said Carhart obtained the letters patent last aforesaid, he did, in accordance with the requirements of the statutes of the United States in that behalf, deliver to the Commissioner of Patents amended and corrected description and specification in writing of the said invention, which said amendment and corrected description and specification of the said invention was signed and sworn to by the said Carhart, and filed in the said Patent Office.

And your orators further show unto your honors, that heretofore and before the eighteenth day of August, A. D. 1857, the letters patent last aforesaid being inoperative by reason of a defective and insufficient description and specification, arising out of inadvertency and mistake, but without any fraudulent or deceptive intention on the part of the said Carhart, was by him duly surrendered according to law to the Commissioner of Patents of the United States, and by the said Commissioner cancelled; and thereupon the said Commis-

sioner, upon the payment of fifteen dollars and the filing of amended description and specification by the said Carhart in the Patent Office, caused new letters patent of the United States, bearing date the eighteenth day of August, A. D. 1857, to be issued to the said Carhart for the same invention, and for the residue of the period then unexpired for which the original patent was granted, and in accordance with the amended and corrected description and specification, which were given in the words of the said Carhart, in the schedule annexed to the letters patent last aforesaid, and was made part of the same; that the last-mentioned letters patent were issued in the name of the United States, and were sealed with the seal of the Patent
4 Office, and were signed by the Secretary of the Interior, and were countersigned by the then acting Commissioner of Patents, and were issued and delivered to the said Carhart; that before the said Carhart obtained the letters patent last aforesaid, he did, in accordance with the requirements of the statutes of the United States in that behalf, deliver to the Commissioner of Patents amended and corrected description and specification in writing of the said invention, which said amended and corrected description and specification of the said invention was signed and sworn to by the said Carhart and filed in the said Patent Office, as will more fully appear, reference being had to a copy of said last letters patent and the schedule annexed thereto as aforesaid, and hereunto annexed and marked A, and which your orators pray may be deemed and taken as a part of this their bill, and to the original of which, now in your orators' possession and ready to be produced, they crave leave to refer.

And your orators further show unto your honors, that heretofore and before the twenty-fourth day of December, A. D. 1860, your orator, the said Carhart, made application in writing to the said Commissioner of Patents for an extension of said last-mentioned letters patent for the full term of seven years from the twenty-eighth day of December, A. D. 1860, by filing his petition in writing and paying the fee required by law three months prior to the expiration of the letters patent last aforesaid, in the Patent Office of the United States; whereupon the said Commissioner of Patents did, on the twenty-fourth day of December, A. D. 1860, in accordance with the statutes of the United States in such case made and provided, renew and extend the said letters patent for the full term of seven years from and after the expiration of the first term, viz., from the twenty-eighth day of December, A. D. 1860, as will more fully appear, reference being had to a copy of such extension attached hereto and marked B, and which your orators pray may be deemed and taken as a part of this their bill, and to the original of which, now in the possession of your orators and ready to be produced. they crave leave to refer.

And your orators further show unto your honors, that heretofore and on the twenty-seventh day of February, one thousand eight hundred and sixty-one, the said Jeremiah Carhart, then being the owner of the letters patent issued and extended as last aforesaid, did,
5 by a certain instrument in writing by him duly executed, upon

sufficient consideration, assign and transfer unto your orator, the said Elias P. Needham, his executors, administrators, and assigns, one undivided half part of all his right, title, and interest in and to the said invention and letters patent last aforesaid, for and during the term for which the same were originally granted, and also during the said extended term thereof; and thereupon, and by virtue of such assignment and transfer, your orator, the said Needham, became the sole and absolute owner of one undivided half part of the letters patent and extension thereof as last aforesaid, to which instrument in writing, duly recorded in the Patent Office of the United States, the original of which is in your orators' possession, your orators crave leave to refer.

And your orators further show unto your honors, that your orator, the said Elias P. Needham, has, ever since the date of the said assignment, been and now is entitled to all the rights, interests, and privileges thereby secured unto him in and to the said invention and improvements in the said assignment particularly set forth; and is, and ever since the date thereof has been, by reason of the performance by him of all the conditions and undertakings on his part to be performed, entitled to the one undivided half part of the said improvements in the said assignment particularly specified as conveyed as aforesaid.

And your orators further show unto your honors, that the said improvements so patented as aforesaid unto your orator, the said Carhart, are of very great value and importance, and that the same have been extensively introduced into public use, and that the public generally have acquiesced in your orators' exclusive right to the same; and your orators would, but for the wrongful acts and doings of the said defendant, and others acting in concert with him, have made large gains, profits, and advantages from the manufacture, use, and sale of the said improvements.

And your orators further show unto your honors, that the said defendant, Charles Austin, at Concord aforesaid and elsewhere within the United States, well knowing the premises and the rights and privileges granted and secured unto your orators, as aforesaid, but contriving to injure your orators, and to deprive them of the profits,
benefits, and advantages which might and otherwise would
6 have accrued to them, at the city of New York, and within the
said southern district of New York, and without the license or permission of your orators, or either of them, has ever since the 28th day of February, 1861, unlawfully and wrongfully made or caused to be made, and sold or caused to be sold, and is now unlawfully and wrongfully making and selling large quantities of musical instruments and parts of musical instruments, all containing the said improvements, or some of them, the exclusive right to which improvements was granted and secured unto your orators as hereinbefore set forth, and which said unlawful making use and sale by the said defendant, as aforesaid, is in violation and infringement of your orators' exclusive rights and privileges; and that the said defendant has derived and received, and is still deriving and receiving, from

such manufacture and sale great gains and profits, but to what amount your orators are ignorant, and cannot set forth; but your orators believe the same to be of the full sum of ten thousand dollars, and so charge the fact to be, and pray that the defendant may be required to make a disclosure of all such gains and profits.

And your orators in like manner aver that the defendant, though requested to desist from such unlawful making and sale, and to pay your orators such gains and profits as the said defendant has actually made, refuses so to do; by means whereof your orators are greatly injured, and are deprived and prevented from receiving the gains and profits to which they are lawfully entitled from the exclusive rights and privileges so granted and secured unto them as aforesaid, and which they would have derived and acquired but for the said wrongful acts of the said defendant.

And your orators pray that the said defendant may be compelled, by a decree of this court, to account for and pay over unto your orators all such gains and profits as have accrued or arisen to, or been earned or received by, the said defendant, and all such gains and profits as have been received, or to which he may be entitled, by reason of such manufacture or sale by him of the said improvement, and all such gains and profits as your orators would have received but for the said wrongful acts and doings of the said defendant.

And that the said defendant, his attorneys, solicitors, clerks, servants, agents, and workmen, may be perpetually enjoined and
7 restrained by the decree of this court from directly or indirectly making or causing to be made, or using or causing to be used, or vending to others to be used in any manner, the said invention and improvements, or any of them, granted and secured unto your orators as aforesaid, and from infringing upon or violating the said letters patent and extension thereof, by the use or sale of the said improvements, or any of them, in any way whatsoever; and that all such infringing reed musical instruments, and parts of instruments, may be forthwith destroyed or delivered up to your orators; and that the said defendant may be decreed to pay the costs of this suit, and that your orators may have such other and further relief as the equity of the case may require, and as to your honors may seem meet.

To the end, therefore, that the said defendant may, if he can, show why your orators should not have the relief hereby prayed, and may full, true, direct, and perfect answer make, according to the best of his knowledge, remembrance, information, and belief, to the several matters hereinbefore averred and set forth as fully and particularly as if the same were here repeated paragraph by paragraph, and he thereunto specifically interrogated—

May it please your honors to grant to your orators a writ of subpœna ad respondendum, issuing out of and under the seal of this honorable court, directed to the defendant, commanding him to be and appear and make answer unto this bill of complaint, and to perform and abide by such order and decree herein as to this court may seem required by the principles of equity and good conscience.

May it please your honors to grant to your orators a provisional or

preliminary injunction, issuing out of and under the seal of this honorable court, enjoining and restraining the defendant, Charles Austin, his attorneys, solicitors, clerks, servants, workmen, and agents to the same purport, tenor, and effect hereinbefore prayed for in regard to said perpetual injunction.

And your orators will ever pray, &c.

J. CARHART.
E. P. NEEDHAM.

BROWNE & MAYNADIER, *Solicitors for Claimants.*
CAUSTEN BROWNE, *of Counsel.*

8 UNITED STATES OF AMERICA,
Southern district of New York, ss:

On this twenty-fifth day of July, A. D. 1863, before me came Jeremiah Carhart, one of the complainants in the foregoing bill of complaint named, who, being first duly sworn by me, did depose and say, that he has read the said bill subscribed by him and knows the contents thereof, and that the same are true of his own knowledge, except as to the matters which are therein stated to be on information and belief, and as to these matters, he believes them to be true.

R. E. STILWELL, *U. S. Com'r.*

9 *Exhibit A.—Reissue No.* 484.

United States of America to all to whom these letters patent shall come:

Whereas Jeremiah Carhart, of New York, N. Y., has alleged that he has invented a new and useful improvement in reed musical instrument, (for which letters patent were issued to him, dated 28th December, 1846, entitled "Improvement in bellows for musical instruments," the same surrendered and a reissue granted, dated 24th June, 1856, which last letters having been surrendered by him, the same have been cancelled and new letters ordered to issue to him, on his second amended specification,) which he states has not been known or used before his application; has made oath that he is a citizen of the United States; that he does verily believe that he is the original and first inventor or discover of the said improvement, and that the same hath not, to the best of his knowledge and belief, been previously known or used; has paid into the treasury of the United States the sum of fifteen dollars, and presented a petition to the Commissioner of Patents signifying a desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for that purpose:

These are, therefore, to grant according to law to the said Jeremiah Carhart, his heirs, administrators, or assigns, for the term of fourteen years from the said 28th day of December, one thousand eight hundred and forty-six, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said improvement, a description whereof is given in the words of the said Carhart in the schedule hereunto annexed, and is made a part of these presents.

In testimony whereof, I have caused these letters to be made patent, and the seal of the Patent Office has been hereunto affixed. Given under my hand, at the city of Washington, this eighteenth day of August, in the year of our Lord one thousand eight hundred and fifty-seven, and of the independence of the United States of America the eighty-second.

[L. S.] JACOB THOMPSON, *Secretary of the Interior.*

S. T. SHUGERT, *Acting Commissioner of Patents.*

Countersigned and sealed with the seal of the Patent Office.

The schedule referred to in these letters patent, and making part of the same.

To all whom these presents shall come:

Be it known that I, Jeremiah Carhart, of the city of New York, in the county of New York, and the State of New York, have invented new and useful improvements in that class of musical instruments called melodeons, seraphines, Æolian attachments, &c., or in the bellows therefor, and that the following is a full, clear, and exact description of the principle or character which distinguishes them from all other things before known, and of the manner of making, constructing, and using the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is an end elevation of the frame and lower part of the instrument; figure 2, an inverted bottom view; figure 3, a vertical section of figure 1 taken at the line (x x) of figure 2, and figure 4, a horizontal section taken at the line (z z) of figure 1 below the sound board and reeds; figure 5 is a complete cross section of the instrument, showing the parts above as well as below the reeds. The same letters indicate like parts in all the figures.

The object of my invention is to improve the tone of the reeds, and to impart to them promptness and certainty in responding to the touch of the keys, and at the same time to give a compact and convenient and graceful form to the instrument.

In instruments constructed before my improvements, some parts of the reeds were uniformly found to be slow in speaking, and would often fail entirely; they would either not speak at all, or would give their tones out of tune. The sound of the reeds was also disagreeable, "reedy," and nasal to such a degree that the instrument could not be extensively introduced. In all, or nearly all of these instruments, the bellows used was so arranged as to blow the air through the reeds, and in all the attempts previously made to pro-
11 duce the tones by exhaustion, the instruments have been so incumbered with tubes and wind-chests between the bellows and the reeds, that pre-existing evils have rather been increased than diminished, although the exhausting bellows, when properly used, is a vast improvement over the blast bellows.

I construct my bellows, to operate by exhaustion, with two chambers, the one drawing the air from the other, the first having a tendency by weight or spring to expand with a force equal to about

seven pounds to the square foot, and the other tending by similar means to close, to expel the air within it. The upper leaf of the exhaust chamber of my bellows is firmly attached to the frame of the instrument a little below the "key-frame." The openings for the reeds are made through this board; directly over each reed-seat is a cap, closely fitting upon the reed-board, forming a cell over the reed and reed openings about the length of the reed. This case is open at the one end of the reed, but closed at the other, and is in width and in depth, upon an average, about $\frac{3}{8}$ of an inch, but should be slightly increased for the large reeds and diminished for the small ones. About 3 inches from the mouth of the reed-cells and on the same leaf of the exhaust chamber, I place a board in a vertical position, which I call the concentrating board, which extends to the end and top of the instrument, thus forming a narrow chamber, open substantially at the top, but extending the whole length of the reed-board.

By the use of these cells on my bellows the tone of the reeds is greatly improved and their speaking accelerated; and the concentrating chamber also much increases its richness.

In the accompanying drawing, (a) represents the sound board or table to which the reeds (b b) are secured in any desired or well known manner with the reeds above, so that the tone shall be produced by currents passing towards the bellows. I prefer to attach the reeds by sliding their frames, the reeds being uppermost, into side grooves at the bottom of the reed-cells. The reeds are placed over apertures in the sound board, which may be called reed openings or apertures, in the usual manner, leading to the first chamber (c) formed by the sound board and the first flap (d), which is jointed in any desired manner to the back of the sound board, and connected to the ends and the front by means usually employed in connecting the flaps of bellows; (p) is the cell over the reed, which should be so arranged with reference to the reed and reed openings, and the direction of the current of air, that the air shall pass the reed and through the reed opening from the cell. This arrangement is clearly shown in Fig. 5, (s^1) the swell, (t) the concentrating board, (l) the board containing the cells, (F) the key-frame, (k k) the keys, (r) the valve-pin, and (v) the valve under the reed opening. The forward edge of the first flap has a weight (e) attached to it, which tends constantly to draw it down by an equal force, to give an equal current of air, and therefore to produce a regular vibration of the reeds. The first flap is provided with two series of apertures (f f) covered by valves on the under side, made is manner to be hereinafter described. To the weighted edge of this first flap is jointed the second flap (g), the two being connected at the ends and back to form the second chamber (h), in the same manner as the first is connected with the second board; and these two flaps are drawn together by a spring (i), one leaf of which is secured to each of them, so that whenever the foot is removed from a treadle (k) connected with the second flap by a strap (u), this spring draws it right up against the first flap, by which action all air previously contained in the second chamber is forced out through a valve (m), and when this

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flap is drawn down by the pressure of the foot on the treadle, the air contained in the first chamber is exhausted therefrom, and as this process of exhaustion goes on, the pressure of the atmosphere preponderates over the weight on the first flap and forces it up, so that when the second flap is relieved of the pressure of the foot, the spring immediately begins to draw it up; this relieves the first flap of the pressure of the atmosphere, which acts on it by the intervention of the second flap jointed to it, whereupon the weight begins to descend, to keep up the steady and constant action of the air on the reeds. The manner in which the pressure of the atmosphere acts to force up the first flap, when the first chamber is partly exhausted, will be evident when it is observed that the second flap is drawn down by one edge, the other being jointed to the front edge of the first flap, so that the pressure of the atmosphere on the under side of the second flap tends to force up the two flaps, notwithstanding the back of the lower one is carried down by the treadle, the connexion of the treadle acting merely as a movable fulcrum for the upward movement
13 of the front of the two flaps, when forced up by the pressure of the atmosphere. The valves of the two flaps are formed by a strip of thin leather or other like material, secured at each end over a hole or series of holes (n) shown by dotted lines in figure 2, and then over this leather is stretched a strip or cord (o) of India rubber or other similarly elastic substance, which permits the leather to open sufficiently for the passage of the air, but which at the same time prevents the leather from sagging down so far as to flap and make a noise when suddenly closed by the pressure of the air, as would be the case after being in use for a short time without the spring.

The upper or first chamber is provided with an escape hinge-valve, (p) opening inwards, and kept closed by a spring (r), but which is opened by the upper or first flap striking the lever (s) of the valve when the operator works the lower or second flap faster than is necessary. The treadle (k), which cannot be attached to the floor conveniently, is cut out, as at (t), as represented by dotted lines in figures 1 and 3, sufficiently to permit the heel of the operator's foot to pass through and rest upon the floor, to prevent the treadle from being pushed forward when the forward part of the foot acts on the part (u) to bear it down.

It will be obvious that other kinds of valves may be substituted for those described, without changing the leading part of my invention, and that any other appropriate spring may be employed to draw together the two flaps, and finally, that any desired mode of connecting the various parts may be employed, so long as the character of invention, or any part of it, is retained. It is obvious that many changes in form, and in the mere arrangements of parts, may be made without departing in the least from the principle of my invention.

Having fully described my improvements, what I claim as my invention and desire to secure by letters patent is, so connecting the board which contains the reed-seats, or perforations for the reeds, with the exhausting bellows that it shall form substantially a part of

the stationary leaf or cover of the exhaust-chamber thereof, while the exhausting or pumping chamber is placed in immediate connexion with the said exhaust-chamber, without the intervention
14 of tubes, thus improving the tone of the reeds and expediting their speaking, and giving a compact, light, and graceful form to the instrument, substantially as described.

I also claim the reed-cells in combination with the reed-seats or openings, substantially as described.

I also claim the concentrating chamber, in combination with the reed-cells and reed-seats, substantially as described.

I claim the last two combinations specified only when they are to be used with a suction or exhaust bellows capable of producing a continuous current of air through the reed opening, as set forth.

J. CARHART.

Witnesses: W. P. N. FITZGERALD.
JOHN I. MURRAY.

(Here follows diagram, page 14.)

Exhibit B.

Whereas, upon the petition of Jeremiah Carhart, of New York, N. Y., for the extension of the within patent, granted to him on the 28th day of December, 1846, reissued on the 27th day of June, 1856, and again reissued on the 18th day of August, 1857, the undersigned, in accordance with the 18th section of the act of Congress approved the 4th day of July, 1836, entitled "An act to provide for the progress of the useful arts, and to repeal all acts and parts of acts heretofore made for that purpose," and the act approved the 7th day of May, 1845, entitled "An act to provide additional examiners in the Patent Office, and for other purposes," did, on the 24th day of December, decide that said patent ought to be extended;

Now, therefore, I, Samuel T. Shugert, acting Commissioner of Patents, by virtue of the power vested in me by said acts of Congress, do renew and extend the said patent, and certify that the same is hereby extended for the term of seven years from and after the limitation of the first term, viz., from the 28th day of Decem-
15 ber, 1860, which certificate, being duly entered on record in the Patent Office, has now the same effect in law as though the same had been originally granted for twenty-one years.

In testimony whereof, I have caused the seal of the Patent Office to be hereunto affixed this 24th day of December, 1860, and of the independence of the United States the eighty-fifth.

[L. S.] S. T. SHUGERT, *Acting Commissioner.*

Whereas I, Jeremiah Carhart, of the State, county, and city of New York, did obtain letters patent of the United States for an "improvement in bellows for musical instruments," bearing date the twenty-eighth day of December, one thousand eight hundred and forty-six, and afterwards twice reissued to me for "improvements in reed musical instruments;" and whereas the said letters patent

have been duly extended for the term of seven years from the expiration of the first term thereof; and whereas Elias P. Needham, of the said State, county, and city, is desirous of acquiring an interest in said letters patent: Now—

This indenture witnesseth, that in consideration of the sum of one dollar, and upon other valuable considerations unto me from the said Elias P. Needham moving, I have sold, assigned, and set over, and by these presents do sell, assign, and set over unto the said Elias P. Needham, his executors, administrators, and assigns, one undivided half part of my right, title, and interest to and in said invention and letters patent, for and during the term for which the same were originally granted as aforesaid, and also during the said extended term thereof.

In witness whereof, I have hereunto set my hand and seal the twenty-seventh day of February, one thousand eight hundred and sixty-one.

J. CARHART. [L. S.]

In presence of—
AUGUSTUS H. WHEELER.

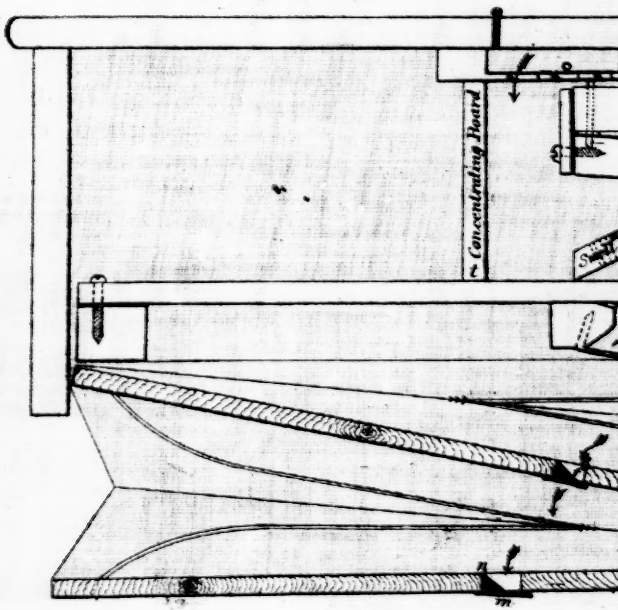
And thereupon a subpœna is issued from our said circuit court, addressed to the said Austin, dated the thirtieth day of July, A. D. 1863, commanding the said Austin to appear before the said judges of our said court, at the clerk's office at Portsmouth, in
16 said district, on the first Monday of September then next ensuing, to answer to the things objected against him, and to receive what our said judges shall have considered in this behalf; which subpœna having been duly served upon said Austin, is thereafterwards, on said first Monday of September, duly returned into said clerk's office, when and where the said Austin appears, by Arthur Fletcher, esq., and Edmund Burke, esq., his solicitors. And on the third day of October, A. D. 1863, the defendant files the following answer:

The answer of Charles Austin, the defendant, to the bill of complaint of Jeremiah Carhart and Elias P. Needham, complainants.

The defendant, now and at all times hereafter saving and reserving to himself all and all manner of benefit and advantage of exception to the manifold errors, uncertainties, imperfections, and insufficiencies in said bill of complaint contained, for answer thereunto, or unto so much or such parts thereof as he, this defendant, is advised is material for him to make answer unto, this defendant answering, says: that he is informed and believes that the said Jeremiah Carhart did, on or about the time in said complainant's bill mentioned, apply for and obtain letters patent, duly authenticated by the proper officers of the United States of America, purporting to secure to said Jeremiah Carhart, and his heirs, administrators, and assigns, as the supposed original inventor thereof, the full and exclusive right of making, using, and vending to others to be used, certain supposed and pretended new and useful improvements in musical instruments, as is in said bill of complaint fully set forth; but for certainty thereof, he prays that the

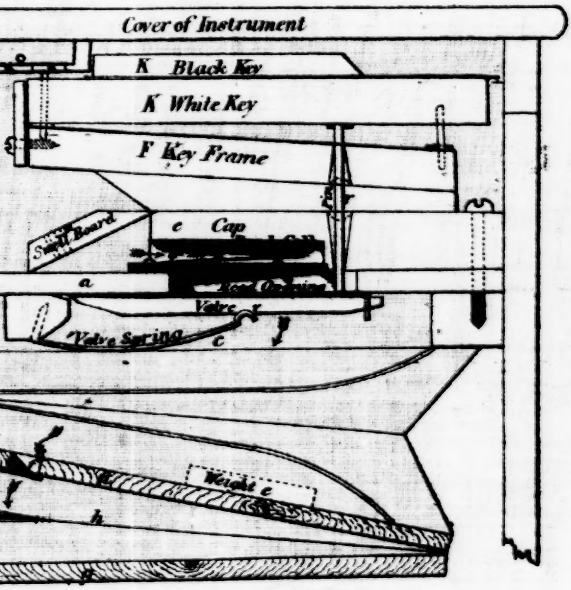
No. 317. – Carhart et al. vs. Austin,
page 14.

JER. CARHA
IMPT IN MELODEONS OR B



ARHART'S
OR BELLOWS THEREFOR.

Fig. 5.



said complainants may be required to produce said letters patent, and the specification therein referred to. But this defendant denies that the said Jeremiah Carhart, one of the said complainants, is the original and sole inventor of said supposed new improvements, or that he, or his assigns, have any right to the sole and exclusive use thereof.

17 And this defendant, further answering, says that he is informed and believes that, on or about the time in said complainant's bill mentioned, the said Jeremiah Carhart did surrender said original letters patent to the Commissioner of Patents of the United States, and that new letters patent, duly authenticated by the proper officers of the United States, were issued to him, with an amended and corrected description and specification thereunto annexed, for the residue of the unexpired term of said original letters patent, as is in said bill of complaint fully set forth; but for certainty thereof this defendant prays that said complainants may be required to produce said new letters patent, with the amended and corrected description therein referred to. But this defendant denies that the said Jeremiah Carhart, one of the said complainants, is the original and sole inventor of the said supposed new and useful improvements set forth and claimed by him in the description and specification annexed to said new letters patent, or that he, or his assigns, have any right to the sole and exclusive use thereof.

And this defendant, further answering, says that he is informed and believes that, on or about the time mentioned in said bill of complaint, the said Jeremiah Carhart did surrender the said new letters patent to the Commissioner of Patents of the United States, and that other new letters patent, duly authenticated by the proper officers of the United States, were issued to him, with other amended and corrected description and specification thereunto annexed, for the residue of the unexpired term of said original letters patent, as is fully set forth in said bill of complaint; but, for certainty thereof, he prays that said complainants may be required to produce said last-mentioned new letters patent and the amended and corrected description and specification therein referred to. But this defendant denies that the said Jeremiah Carhart, one of said complainants, is the original and sole inventor of said supposed new and useful improvements set forth and claimed by him in the specification annexed to said last-mentioned new letters patent, or that he, or his assigns, have any right to the sole and exclusive use thereof.

And this defendant, further answering, says that he is informed and believes that, on on about the time mentioned in said bill

18 of complaint, on the application of the said Jeremiah Carhart, the said last-mentioned new letters patent were duly renewed and extended by the proper officer of the United States for the full term of seven years from the expiration of the term of said original letters patent, as is fully set forth in said bill of complaint; but, for the certainty thereof, he prays that the said complainant may be required to produce said extension, or duly authenticated proof thereof.

And this defendant, further answering, says that he is informed and believes that, on or about the time mentioned in said bill of complaint,

the said Jeremiah Carhart did, by an instrument in writing, assign and transfer to the said Elias P. Needham, one of the said complainants, one undivided half part of his right, title, and interest in and to said pretended invention and said new letters patent last above mentioned, and the extended term thereof, as is fully set forth in said bill of complaint; but, for the certainty thereof, he prays that the complainants may be required to produce said instrument in writing. But this defendant does not know, and cannot say, what rights were acquired by said Elias P. Needham under and by virtue of said assignment.

And this defendant, protesting that the said Jeremiah Carhart was not the true, sole, or original inventor of either or any of the pretended improvements set forth and claimed by him in either or any of the descriptions and specifications annexed to said several letters patent before mentioned, or either or any of them, further answering, says that he is informed, and verily believes, that the public, generally, have not acquiesced in the exclusive right of the said Jeremiah Carhart, or of the said complainants, to the said supposed improvements set forth and claimed by said Jeremiah Carhart, in the descriptions and specifications, or either or any of them, annexed to said several letters patent, or to either or any of them, nor in the extension thereof. And this defendant, protesting as above, further answering, says that he is informed and believes that the validity of the right of the said Jeremiah Carhart, and of the said complainants, to the said pretended improvements set forth and claimed by the said Jeremiah Carhart in the several descriptions and specifications annexed to the said several letters patent before mentioned, has never been established by a trial by jury and judgment at law in any court of compe-
19 tent jurisdiction since the issue of said original letters patent, nor since the issue of either of the new letters patent hereinbefore mentioned.

And this defendant, protesting that the said Jeremiah Carhart was not the true, sole, and original inventor of either or of any of the pretended improvements set forth and claimed by him in either or any of the descriptions and specifications annexed to said several letters patent hereinbefore mentioned, or to either or any of them, further answering, says that he is informed, and verily believes, and therefore alleges by way of defence to said bill of complaint, that the pretended devices and improvements set forth and claimed by the said Jeremiah Carhart in the amended and corrected description and specification annexed to his new letters patent herein last before mentioned, were not described nor represented in the model or in the drawings deposited and filed by him in the Patent Office of the United States with his application for said original letters patent, before the issue of the same, nor were set forth and claimed by him in the description and specification annexed to said original letters patent, nor were described or represented in the model or drawings deposited and filed or remaining in said Patent Office on his surrender of said original letters patent and his application for the new letters patent first hereinbefore mentioned, nor were set forth or claimed by him in the amended and corrected description and specification annexed to said

new letters patent first hereinbefore mentioned, but that the said pretended improvements were first set forth and claimed by the said Jeremiah Carhart in the amended and corrected description and specification annexed to his new letters patent last hereinbefore mentioned, contrary to law, and in violation of equity and good conscience.

And this defendant, protesting that the said Jeremiah Carhart was not the true, sole, and original inventor of either or any of the pretended improvements set forth and claimed by him, in either or any of the descriptions and specifications annexed to the said several letters patent hereinbefore mentioned, or to either or any of them, further answering, says that he is informed and verily believes, and therefore alleges by way of defence to said bill of complaint, that the claims, all and singular, set forth by the said Jeremiah Carhart in the amended and corrected description and specification annexed to the said
20 new letters patent hereinbefore last mentioned, do not cover, describe, nor claim any device or improvement which is by law the proper subject of letters patent, but that the said claims are wholly invalid, void, and inoperative in law.

And this defendant, further answering, says that he is informed and verily believes that the pretended new and useful improvements in musical instruments set forth and claimed by the said Jeremiah Carhart in the several descriptions and specifications annexed to his several letters patent hereinbefore mentioned, and especially the pretended new and useful improvements in musical instruments set forth and claimed by him in the amended and corrected description and specification annexed to his new letters patent hereinbefore last mentioned and last issued, as set forth in said bill of complaint, or the material parts thereof, or some or one of them, had been known and used in sundry places and by sundry persons, to wit, in Lowell, Massachusetts, by George L. French, late of said Lowell, deceased; and by George W. French, of said Lowell; and Matilda French, late of said Lowell, but now of Boston, Massachusetts; and by John Carney, of Lawrence, Massachusetts, formerly of Lowell aforesaid; and in other places in the United States.

And this defendant, further answering, says that he is informed and verily believes that the said pretended new and useful improvements in musical instruments, or any, or one of them, were not first and originally invented or discovered by the said Jeremiah Carhart; but said pretended improvements, or the material parts thereof, or some, or one of them, were first and originally invented and discovered by George L. French, late of Lowell, Massachusetts, deceased.

And this defendant is informed and verily believes, and he therefore alleges by way of defence to the said bill of complaint, that the said Jeremiah Carhart, previous to the date of the said new letters patent hereinbefore last mentioned and last issued to him, as set forth in said bill of complaint, and previous to his application therefor, suffered the said pretended improvements set forth and claimed in the amended and corrected specification signed by him and annexed to said new letters patent last issued to him, as set forth in said
21 bill of complaint, to be used freely and fully by the public for

several years, and thereby assented to the use of the same, and abandoned and dedicated the same to public use.

And this defendant, protesting that the said Jeremiah Carhart was not the true, sole, and original inventor or discoverer of said pretended new and useful improvements in musical instruments, nor of any, or one of them, nor of any material part thereof, as set forth and claimed by him in either or any of the descriptions and specifications annexed to his said letters patent, or either or any of them, further answering, says that the specification signed by the said Jeremiah Carhart, and annexed to the new letters patent last issued to him, as set forth in said bill of complaint, is informal, insufficient, and void, and does not, and cannot, entitle the said Jeremiah Carhart, or his assigns, to the exclusive use, possession, or enjoyment of said improvements therein claimed; and the said Jeremiah Carhart, or his assigns, cannot hold or enjoy the exclusive right or title to the same by virtue of said last-mentioned new letters patent.

And this defendant denies all unlawful acts and proceedings wherewith he is charged by the said bill of complaint, without this, that any other matter, cause, or thing in the said bill of complaint contained material to this defendant to make answer unto, and not herein and hereby well and sufficiently answered, traversed, or denied, is true to the knowledge and belief of this defendant. All which matters and things this defendant is ready and willing to aver, maintain, and prove, as your honors shall direct, and hereby prays to be hence dismissed, with his reasonable costs and charges, in this behalf most wrongfully sustained.

And this defendant prays, as if it be deemed necessary for the further information of your honors, that your honors will grant and cause meet and proper issues to be framed and transferred to the law side of this honorable court, for the trial by jury of all matters of fact put in issue by the complainant's said bill of complaint, and this defendant's answer thereto.

CHARLES AUSTIN.

EDMUND BURKE,
ARTHUR FLETCHER,
Solicitors for the Defendants.

22 UNITED STATES OF AMERICA, *District of New Hampshire, ss:*

On this third day of October, A. D. 1863, before me came Charles Austin, the defendant in the foregoing proceeding in equity, who, being first duly sworn by me, did depose and say that he has read the said answer subscribed by him, and knows the contents thereof, and that the same are true of his own knowldge, except as to matters which are therein stated to be on information and belief; and as to those matters, he believes them to be true.

WM. L. FOSTER,
United States Commissioner.

22½ And thereupon the plaintiffs, on the 28th day of October, A. D. 1863, file their replication, in the words following, to wit:

These repliants, saving and reserving to themselves all and all manner of advantages of exception to the manifold insufficiencies of the said answer, for replication thereunto say, that they will aver and prove their said bill to be true, certain, and sufficient in the law to be answered unto, and that the said answer of the defendant is uncertain, untrue, and insufficient to be replied unto by these repliants; without this, that any other matter or thing whatsoever in the said answer contained, material or effectual in the law to be replied unto, confessed and avoided, traversed or denied, is true; all which matters and things these repliants are and will be ready to aver and prove as this honorable court shall direct, and humbly pray as in and by their said bill they have already prayed.

By their solicitors—

BROWNE & MAYNADIER.

23 This cause is continued in court here from term to term until this October term of said court, A. D. 1865, when the same having been fully heard and considered by said court upon the allegations, evidence, and arguments of counsel, as well on the part of the plaintiffs as of the defendants, it is thereupon ordered, adjudged, and decreed by the said court that the said bill of complaint of the plaintiffs be dismissed with costs to be paid by the said Carhart & Needham to the said Austin, taxed at the sum of two hundred twenty-one dollars and ninety cents.

And now, on the sixth day of November, A. D. 1865, the complainants, Jeremiah Carhart and Elias R. Needham, feeling themselves aggrieved by the final decree of this court in the above-enti-
23½ tled cause, claim and appeal therefrom to the Supreme Court of the United States, to be holden at Washington on the first Monday of December next, and are ready to give security to prosecute their said appeal.

By their solicitor—

CAUSTEN BROWNE.

And the complainants deposit here in the office of the clerk of said circuit court security in the sum of five hundred dollars to prosecute their said appeal and writ of error thereon to effect, and to pay all costs and damages, if they shall fail to make good his appeal.

24 The foregoing is a true transcript of the record in the above-entitled cause now remaining in the said circuit court.

Witness the seal of said court this eighteenth day of November, A. D. 1865.

[SEAL.] ALBERT N. HATCH, *Clerk.*

24½ At the hearing of the said cause the following evidence was offered and read:

Original patent to J. Carhart, 28 Dec., 1846.

United States of America to all to whom these letters patent shall come:

Whereas Jeremiah Carhart, Buffalo, New York, has alleged that he has invented a new and useful improvement in bellows for musical instruments, which he states has not been known or used before his application; has made oath that he is a citizen of the United States; that he does verily believe that he is the original and first inventor or discoverer of the said improvement, and that the same hath not, to the best of his knowledge and belief, been previously known or used; has paid into the treasury of the United States the sum of thirty dollars, and presented a petition to the Commissioner of Patents, signifying a desire of obtaining an exclusive property in the said improvement and praying that a patent may be granted for that purpose:

These are, therefore, to grant, according to law, to the said Jeremiah Carhart, his heirs, administrators, or assigns, for the term of fourteen years from the twenty-eighth day of December, one thousand eight hundred and forty-six, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said improvement, a description whereof is given in the words of the said Jeremiah Carhart in the schedule hereunto annexed, and is made part of these presents.

In testimony whereof, I have caused these letters to be made patent and the seal of the Patent Office has been hereunto affixed.

Given under my hand, at the city of Washington, this twenty-eighth day of December, in the year of our Lord one thousand eight hundred and forty-six, and of the independence of the United States of America the seventy-first.

[L. S.] JAMES BUCHANAN,
Secretary of the Interior.

Countersigned and sealed with the seal of the Patent Office:
EDMUND BURKE, *Commissioner of Patents.*

(Here follows diagram, page 25.)

25 *The Schedule referred to in these letters patent, and making part of the same.*

To all to whom these presents shall come:

Be it known that I, Jeremiah Carhart, of Buffalo, in the county of Erie, and State of New York, have invented new and useful improvements in the bellows of that class of musical instruments called melodeons, seraphines, Æolian attachments, &c., and that the following is a full, clear, and exact description of the principle or character which distinguishes them from all other things before known, and of the manner of making, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

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JER. CARHART
IMPT IN BELLOWS FOR MUSICAL

Fig 1.

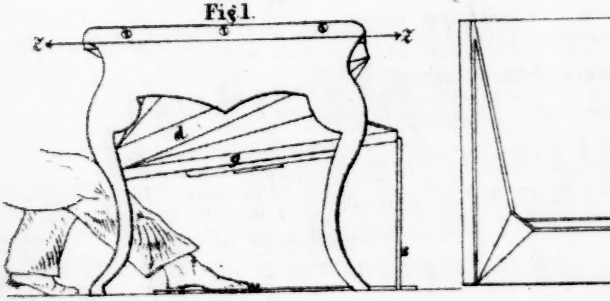
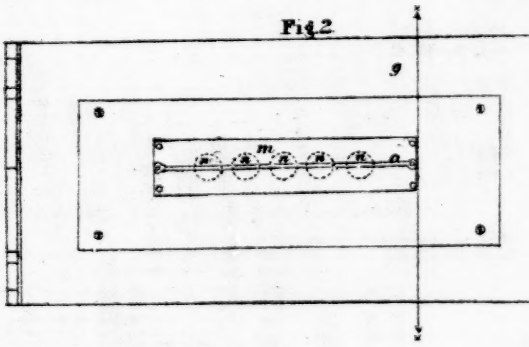


Fig 2.



tin,
/2,

HART'S
SICAL INSTRUMENTS.

Fig. 4.

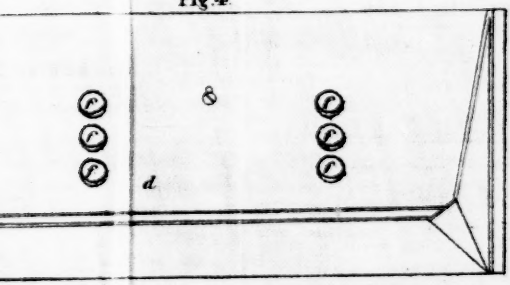


Fig. 3.

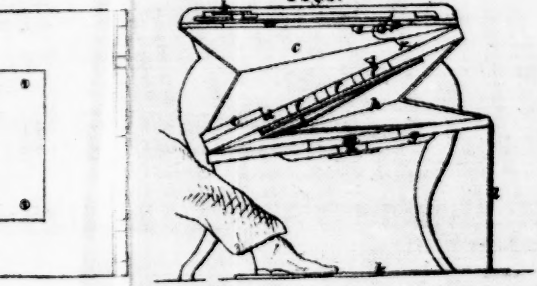


Figure 1 is an end elevation; figure 2, an inverted bottom view; figure 3, a vertical section taken at the line (x x) of figure 2, and figure 4, a horizontal section taken at the line (z z) of figure 1. The same letters indicate like parts in all the figures. In instruments of the kinds above referred to, and all others in which reeds are vibrated by a current or currents of air, the bellows is so constructed as to blow or force the current against the reeds instead of drawing the currant by an exhausting action of the bellows, as in the method adopted by me. The old method requires the employment of what is termed a wind-chest (which occupies much room) to keep up a constant current; as, in all instruments of this kind, the bellows is placed below the reeds, the flap of the wind-chest must be forced up by a spring, the tension of which varies constantly, and therefore producing irregular tones; for it is well known that the tones are regulated by the force of the current by which they are produced. The objects of my invention are to produce a constant current of regular force, except when required to be increased to produce the swell, and so to arrange the parts as to occupy less room than by the modes heretofore practiced. These objects I effect by making the
26 bellows with two exhausting chambers; one edge of the flap of the first is hinged to the back of the sound-board or table to which the reeds are attached; the other edge is weighted to tend constantly downwards, and the other chamber is formed by a second or outer flap, hinged to the weighted edge of the first flap, and provided with a treadle, or other means for working it. The first flap is provided with a valve or valves opening into the second chamber, through which the air is drawn to exhaust the upper chamber by the operation of the second flap, which latter is also provided with a valve or valves opening outwards for the discharge of the air from the second or lower chamber, when the second flap is drawn up by a spring that constantly tends to draw it up towards the first flap. And my invention also consists in making the valves of the flap by means of a piece or pieces of thin leather or other suitable or like material stretched over a hole or series of holes, which piece of leather or other material is prevented from flapping against its seat, after it has been stretched by use, (which produces a disagreeable sound, as is well known to all experienced in the making or using of such instruments,) by means of a strip or cord of India-rubber or other elastic substance over the middle of the valve.

In the accompanying drawings (a) represents the sound-board or table to which the reeds (bb) are secured in any desired or well known manner with the reeds above, so that the tone shall be produced by currents passing towards the bellows. The reeds are placed over apertures in the sound-board in the usual manner, leading to the first chamber (c) formed by the sound-board and first flap (d), which is jointed in any desired manner to the back of the sound-board, and connected to the ends and the front by means usually employed in connecting the flaps of bellows.

The forward edge of this first flap has a weight (e) attached to it, which tends constantly to draw it down by an equal force, to give an

equal current of air, and therefore to produce a regular vibration of the reeds. This first flap is provided with two series of apertures (ff) covered by valves on the under side made in manner to be hereafter described.

To the weighted edge of this flap is jointed the second flap (g), the two being connected at the ends and back to form the second
27 chamber (h) in the same manner as the first is connected with the sound-board. And these two flaps are drawn together by a spring (i), one leaf of which is secured to each of them, so that whenever the foot is removed from a treadle (k) connected with the second flap by a strap (l) this spring draws it right up against the first flap, by which action all the air previously contained in the second chamber is forced out through a valve (m), and when this flap is drawn down by the pressure of the foot on the treadle, the air contained in the first chamber is exhausted therefrom; and as this process of exhaustion goes on, the pressure of the atmosphere preponderates over the weight on the first flap and forces it up, so that when the second flap is relieved of the pressure of the foot, the spring immediately begins to draw it up; this relieves the first flap of the pressure of the atmosphere, which acts on it by the intervention of the second flap jointed to it, whereupon the weight begins to descend to keep up the constant and steady action of the air on the reeds. The manner in which the pressure of the atmosphere acts to force up the first flap, when the first chamber is partly exhausted, will be evident when it is observed that the second flap is drawn down by one edge, the other being jointed to the front edge of the first flap, so that the pressure of the atmosphere on the under side of the second flap tends to force up the two flaps, notwithstanding the back of the lower one is being carried down by the treadle, the connexion of the treadle acting merely as a movable fulcrum for the upward movement of the front of the two flaps when forced up by the pressure of the atmosphere.

The valves of the two flaps are formed by a strip of thin leather, or other like material, secured at each end over a hole or series of holes (n) shown by dotted lines in figure 2, and then over this leather is stretched a strip or cord (o) of India-rubber or other similarly elastic substance, which permits the leather to open sufficiently for the passage of the air, but which at the same time prevents the leather from sagging down so far as to flap and make a noise when suddenly closed by the pressure of the air, as would be the case after being in use for a short time without the spring.

The upper or first chamber is provided with an escape hinge-valve (p) opening inwards, and kept closed by a spring (r), but
28 which is opened by the upper or first flap striking the lever (s) of the valve when the operator works the lower or second flap faster than is necessary. The treadle (k), which cannot be attached to the floor conveniently, is cut out, as at (t), as represented by dotted lines in figures 1 and 3, sufficiently to permit the heel of the operator's foot to pass through and rest on the floor, to prevent the treadle from being pushed forward when the forward part of the foot acts on the part (u) to bear it down.

It will be obvious that other kinds of valves may be substituted for those described, without changing the leading part of my invention, and that any other appropriate spring may be employed to draw together the two flaps ; and finally, that any desired mode of connecting the various parts may be employed so long as the character of my invention, or any part of it, is retained.

What I claim as my invention, and desire to secure by letters patent, is making an exhausting bellows for reed instruments, consisting of two chambers combined with each other, and with the reeds placed above, so that the chamber next the sounding-board shall be enlarged by a weight on the first flap, substantially as herein described, and exhausted by the action of the second flap, substantially as described. I also claim the method of making the valves by means of strips of leather, or other materials having like properties, placed over a hole, or series of holes, in combination with a cord of India-rubber or other elastic substance, substantially as described, whereby the leather valve is prevented from sagging when stretched by use, and making noise by striking the valve seat, as described.

J. CARHART.

Witnesses : CHARLES M. KELLER.
A. P. BROWN.

29 *Reissue patent to J. Carhart, 24th June, 1856.*

United States of America to all to whom these letters patent shall come :

Whereas Jeremiah Carhart, of New York, N. Y., has alleged that he has invented a new and useful improvement in bellows for musical instruments, (for which letters patent were issued to him, dated 28th December, 1846, which letters, having been surrendered by him, the same have been cancelled, and new letters ordered to issue to him on an amended specification,) which he states has not been known or used before his application ; has made oath that he is a citizen of the United States ; that he does verily believe that he is the original and first inventor and discoverer of the said improvement, and that the same hath not, to the best of his knowledge and belief, been previously known or used ; has paid into the treasury of the United States the sum of fifteen dollars, and presented a petition to the Commissioner of Patents signifying a desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for that purpose :

These are, therefore, to grant, according to law, to the said Jeremiah Carhart, his heirs, administrators, or assigns, for the term of fourteen years from the said twenty-eighth day of December, one thousand eight hundred and forty-six, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said improvement, a description whereof is given
30 in the words of the said Carhart, in the schedule hereunto annexed, and is made part of these presents.

In testimony whereof, I have caused these letters to be made patent and the seal of the Patent Office has been hereunto affixed.

Given under my hand at the city of Washington, this twenty-fourth day of June, in the year of our Lord one thousand eight hundred and fifty-six, and of the independence of the United States of America the eightieth.

[L. S.] ROBERT McCLELLAND,
Secretary of the Interior.

Countersigned and sealed with the seal of the Patent Office.
C. MASON, *Commissioner of Patents.*

The schedule referred to in these letters patent, and making part of the same.

To all to whom these presents shall come :

Be it known that I, Jeremiah Carhart, of the city of New York, in the county of New York, and State of New York, have invented new and useful improvements in that class of musical instruments called melodeons, seraphines, Æolian attachments, &c., and that the following is a full, clear, and exact description of the principle and character which distinguishes them from all other things before known, and of the manner of making, constructing, and using the same, reference being had to the accompanying drawings, making a part of the specification, in which—

Figure 1 is an end elevation; figure 2, an inverted bottom view;
31 figure 3, a vertical section taken at the line (x x) of figure two; and figure 4, a horizontal section taken at the line (z z) of figure 1; the same letters indicate like parts in all the figures.

Instruments of the kind above mentioned have, prior to my invention, had their reed-boards combined with double-chambered bellows, whose parts were so constructed and arranged that the air was condensed within them by the action of the bellows, so as to cause the reeds to vibrate, when the reed-valves were opened by the rushing of the said condensed air out past and through the reeds into the atmosphere. On examination and experiment I found this mode of construction subject to many serious objections. First, unless the top of the instrument—the key-board—is permitted to be constantly vibrating as the bellows operates it requires a wind-chest, which makes it more cumbrous and expensive, and which must be capable of being opened like the top of a piano-forte, and yet must be, and remain when closed, substantially air tight. The latter quality it has constantly a tendency to lose more and more with time, in consequence of the outward pressure of the condensed air within.

Secondly, under this construction, all the joints of the entire instrument have a tendency to open and get out of repair in consequence of the outward pressure of the condensed air.

Thirdly, with this mode of producing the current of air, the reeds, with the open plates to which they are attached, must be placed *within* the instrument *under* the reed-board, so that in constructing the instrument, if found to operate imperfectly, they cannot be examined or taken out without opening the instrument, and as this stops the operation of the reeds, they cannot be inspected while in

place and in operation to detect the cause of their imperfect action preparatory to correction. The same difficulties also present themselves when repairs become necessary, and render the task one of great difficulty and perplexity.

Fourthly, the reed-valves, which are raised by the keys in playing to admit the air successively to the reeds, are, under this construction, pressed by the condensed air against the openings in which the reeds are placed, with the full force of the condensation of the air within, thus rendering the fingering hard and difficult.

Fifthly, as the vibration of the reeds under the old construction is produced by currents from a small wind-chest in which the air
32 is kept in irregular agitation by constantly changing the point of discharge, and against the full pressure of the atmosphere, it is found that the reeds will not always "speak," or give forth their sounds sufficiently quick, and it is also found that the tone when given out is inferior.

The foregoing are some of the defects of the old construction of reed instruments, and my improvements are made principally for the purpose of obviating them.

My invention consists principally in so constructing, combining, and arranging the parts of said reed instruments that the reeds shall be vibrated in playing by the rushing of the external air inward to a partially exhausted chamber, instead of forcing it outward as previously practiced. And this I accomplish by placing the reeds on the outer or upper side of the reed-board, placing a chamber, capable of expansion and contraction, in communication with the under side of the reeds, said chamber having an aperture closed by a valve which opens outward into a second expanding and contracting chamber or air-pump, which also has an aperture closed by a valve opening outward. One of the flaps of the last-mentioned chamber is connected with a treadle, by which it is operated to expand and contract the chamber, by which means the first chamber is exhausted of its air by the pump; the latter operation may be aided by weights or springs, if desired, and the first chamber should be provided with a weight, or some other equivalent, operating constantly to distend it. I find six or eight pounds to the square foot of the flat to be preferable. By these improvements it is readily perceived that the "wind chamber" or "wind-chest" is entirely dispensed with. As the air within is exhausted the pressure of the air from without tends to tighten the seams of the instrument, rendering it more durable, and keeping it in repair, and preventing leakage.

The reeds are on the outside, so that any defect can be observed while the instrument is in operation, and can be removed for repair without opening the instrument; the reed-valves can be opened by the slightest touch of the keys; the reeds, having a supply of air direct from the atmosphere, will "speak" immediately, and the tone will be much improved, as will be observed on experiment, thus at once obviating the leading defects of the old construction.

33 I have also made an improvement in the valves of reed musical instruments.

In the accompanying drawings (a) represents the sound-board or table to which the reeds (b b) are secured in any desired or well known manner with the reeds above, so that the tone shall be produced by currents passing towards the bellows. The reeds are placed over apertures in the sound-board in the usual manner, leading to the first chamber (c) formed by the sound-board and the first flap (d) which is jointed in any desired manner to the back of the sound-board, and connected to the ends and the front by means usually employed in connecting the flaps of bellows.

The forward edge of this first flap has a weight (e) attached to it, which tends constantly to draw it down by an equal force to give an equal current of air, and therefore to produce a regular vibration of the reeds. This first flap is provided with two series of apertures (ff) covered by valves on the under side, made in manner to be hereafter described.

To the weighted edge of this first flap is jointed the second flap (g), the two being connected at the ends and back to form the second chamber (h) in the same manner as the first is connected with the sound-board. And these two flaps are drawn together by a spring (i), one leaf of which is secured to each of them, so that whenever the foot is removed from a treadle (k) connected with the second flap by a strap (l), this spring draws it right up against the first flap, by which action all the air previously contained in the second chamber is forced out through a valve (m), and when this flap is drawn down by the pressure of the foot on the treadle the air contained in the first chamber is exhausted therefrom, and as the process of exhaustion goes on the pressure of the atmosphere preponderates over the weight on the first flap, and forces it up, so that when the second flap is relieved of the pressure of the foot the spring immediately begins to draw it up; this relieves the first flap of the pressure of the atmosphere, which acts on it by the intervention of the second flap jointed to it. Whereupon the weight begins to descend to keep up the constant and steady action of the air on the reeds. The manner in which the pressure of the atmosphere acts to force up the first flap when the first chamber is partly exhausted will be evident
34 when it is observed that the second flap is drawn down by one edge, the other being jointed to the front edge of the first flap, so that the pressure of the atmosphere on the under side of the second flap tends to force up the two flaps, notwithstanding the back of the lower one is carried drwn by the treadle, the connexion of the treadle acting merely as a movable fulcrum for the upward movement of the front of the two flaps when forced up by the pressure of the atmosphere.

The valves of the two flaps are formed by a strip of thin leather, or other like material, secured at each end over a hole or series of holes (n), shown by dotted lines in figure 2, and then over this leather is stretched a strip or cord (o) of India-rubber, or other similarly elastic substance, which permits the leather to open sufficiently for the passage of the air, but which at the same time prevents the leather from sagging down so far as to flap and make a noise when

suddenly closed by the pressure of the air, as would be the case after being in use for a short time without the spring.

The upper or first chamber is provided with an escape hinge-valve (p) opening inwards, and kept closed by a spring (r), but which is opened by the upper or first flap striking the lever (s) of the valve, when the operator works the lower or second flap faster than is necessary.

The treadle (k), which cannot be attached to the floor conveniently, is cut out as at (t), as represented by dotted lines in figures 1 and 3, sufficiently to permit the heel of the operator's foot to pass through and rest on the floor, to prevent the treadle from being pushed forward when the forward part of the foot acts on the part (u) to bear it down.

It will be obvious that other kinds of valves may be substituted for those described without changing the leading part of my invention, and that any other appropriate spring may be employed to draw together the two flaps; and, finally, that any desired mode of connecting the various parts may be employed so long as the character of my invention, or any part of it, is retained. It is obvious that many changes in form, and in the mere arrangement of parts, may be made without departing in the least from the principle of my invention, so long as the exhaust-chamber communicates with the reeds, and the second chamber or pump exhausts the first.

35 Having thus fully explained the nature of my improvements in reed musical instruments, and pointed out several modes in which I have contemplated the application thereof practically:

What I claim as new therein, and my own invention, and desire to secure by letters patent, is the combination of the reeds with an exhaust chamber of variable capacity, and an air pump whose action exhausts and rarifies the air therein, the exhaust-chamber tending to expand with a force that will balance the rarification to be preserved in the chamber, for the purposes herein set forth.

J. CARHART.

SAMUEL C. SWARTZ,
WM. DIXEY,
JOHN J. MURRAY,
Witnesses.

36 U. S. circuit court, district of New Hampshire, 1863, in eq.

JEREMIAH CARHART *et al.*
vs.
CHAS. AUSTIN.

Augustus Rice, being duly sworn, says:

I am forty-five years of age, and reside in Worcester, Mass. I have been for some years connected with the manufacture of melodeons, and understand the construction and operation of such instruments. I called this morning at the store of John C. Haynes, of Boston, a partner in the house of Oliver Ditson & Company, dealers in music and musical instruments, and was introduced to him, and examined with him a melodeon marked on the front "Charles Aus.

tin, Concord, New Hampshire," stated by him to be of Mr. Austin's manufacture, and one of a lot purchased from him by Ditson & Company within two or three months.

The melodeon examined by me, as stated, had the board containing the reed-seats, or perforations for the reeds, so connected with the exhausting bellows, that it formed substantially a part of the stationary leaf or cover of the exhaust-chamber thereof, the exhausting or pumping chamber being placed in immediate connexion with the exhaust-chamber without the intervention of tubes, being the same general construction as that described and represented in the reissue patent, dated August 18th, 1857, of Jeremiah Carhart, on which this suit is brought, with which patent I am well acquainted. The said melodeon also had reed-cells combined with reed-seats or openings, as shown in the patent.

AUGUSTUS RICE.

DISTRICT OF MASSACHUSETTS:

Subscribed and sworn to this 22d day of July, A. D. 1863, by the said Augustus Rice, before me.

ELIAS MERWIN, *U. S. Commissioner.*

37 U. S. circuit court, district of New Hampshire, 1863.

JEREMIAH CARHART *et al.*
vs.
CHAS. AUSTIN.

John C. Haynes, of Boston, Massachusetts, of lawful age, being duly sworn, says:

I am a member of the firm of Oliver Ditson & Company, of said Boston, dealers in music and musical instruments.

I have this morning (22d July, 1863,) exhibited to a gentleman introduced to me as Mr. Augustus Rice, of Worcester, Massachusetts, a melodeon, sold to our firm within a month or two by Mr. Charles Austin, of Concord, New Hampshire, and stated by him to be of his manufacture. This melodeon is marked on the front "Charles Austin, Concord, New Hampshire," and is one of the several dozens which our firm have bought from him within the last two years, represented by him to be of his manufacture, all of which appear to be, and I believe to be of like construction with that exhibited to Mr. Rice, as above mentioned. This particular one may have been purchased by us as much as three months ago.

JOHN C. HAYNES.

Subscribed and sworn to by the said John C. Haynes this 22d day of July, A. D. 1853, before me.

ELIAS MERWIN,
U. S. Com. for the Dist. of Mass.

38 U. S. circuit court, district of New Hampshire, in equity.

J. CARHART *et al.*
vs.
CHARLES AUSTIN.

George D. B. Prescott, of lawful age, being duly sworn, says:

I reside in Concord, New Hampshire, and am partner in the firm of Prescott Brothers, melodeon makers. Our firm have bought from Mr. Charles Austin, the defendant, during the last two years and a half, from time to time, a considerable number of reed-boards, so called, a model or which is now shown me, marked "Austin, H. L. H., commissioner," comprising reed-seats, reed-cells, and reeds of his manufacture. They were generally nicely made. They are designed to be connected with the exhausting bottom so as to form substantially a part of the stationary leaf or cover of the exhaust-chamber, the exhausting or pumping chamber being placed in immediate connexion with the exhaust-chamber, without the intervention of tubes. They were sold to us by Mr. Austin with the knowledge that we put them into such instruments. Not having my books with me, I cannot state exactly how many such reed-boards we have had between the 28th February, 1861, and the 27th July last, the period inquired, but believe that about one-third of all our reed-boards of this kind, during that period, have been bought as above mentioned from Mr. Austin, and therefore put the amount bought from him at twenty-five per annum. I think this is a fair estimate. Mr. Austin sells similar reed-boards in the same way to other melodeon makers, and of the amount he so sells I have, of course, no precise information, but from my observation of his business, (being frequently in his place,) I am satisfied that our firm have bought, during the two years and a half referred to, less than one fourth of the reed-boards which he has made and sold. He has, I believe, a large customer in Syracuse, N. Y., and another in Toronto. Mr. Austin's prices for the reed-boards referred to vary from $3 75 to $4 50 apiece, according to the cost of stock and labor and the state of business generally.

GEORGE D. B. PRESCOTT.

39 DISTRICT OF MASSACHUSETTS, *ss:*

BOSTON, *Aug.* 8, 1863.

On this 8th day of August, 1863, pursuant to summons, personally appeared the said George D. B. Prescott, and made oath that the foregoing affidavit by him subscribed is true; before me.

HENRY L. HALLETT,
U. S. Commissioner, Mass. District.

Circuit court of the United States for the district of New Hampshire, in equity.

JEREMIAH CARHART
vs.
CHARLES AUSTIN.

TESTIMONY ON THE PART OF COMPLAINANTS FOR FINAL HEARING, TAKEN UNDER THE 67TH RULE OF THE SUPREME COURT OF THE UNITED STATES, THURSDAY, JANUARY 28TH, 1864.—PRESENT: CAUSTEN BROWNE, ESQ., COUNSEL FOR COMPLAINANTS; ARTHUR FLETCHER, ESQ., COUNSEL FOR DEFENDANT.

Deposition of John G. Wing.

John G. Wing, called and sworn on the part of complainants, deposes and says:

Int. 1. What is your name, age, residence, and occupation?

Ans. John G. Wing; age, 49 years; reside in New York city, and am a manufacturer of melodeons.

Int. 2. Are you in the employ of Carhart, Needham & Co.?

Ans. I am.

Int. 3. Where did you reside in 1839?

Ans. In Buffalo.

40 Int. 4. Did you know Jeremiah Carhart, then of that place, and how well did you know him?

Ans. I did; I became acquainted with him in Springville, Erie county, in the year 1836; we used to be together a great deal, almost every evening, out there.

Int. 5. Did you see him as frequently as that, in Buffalo?

Ans. No, sir; I would probably see him two or three times a week, sometimes oftener than that.

Int. 6. Please look at the instrument now produced and shown to you, marked on the side of the pine wood frame R. E. Stilwell, examiner, &c., "Wing," and say if you ever saw an instrument constructed like that before, and where you first saw it, and who showed it to you.

Ans. I have; I saw it at Jeremiah Carhart's workshop, on Washington street, Buffalo; Mr. Carhart showed it to me.

Int. 7. On whose premises was his shop, and what part of them?

Ans. It was on the firm of Cutler, White & Stearns's, I think, in a wooden building facing Washington street, up one flight of stairs.

Int. 8. Do you know if Mr. Carhart was doing job work for any one at that time? and if so, for whom?

Ans. He was; he was making flutes and musical instruments for the firm of Nichels & Badger.

Int. 9. If Mr. Carhart ever explained or showed to you the said instrument, which the model here produced is like, will you state when he so showed or explained to you, where he did so, and all the circumstances.

Ans. He showed it to me in his workshop on Washington street, when I was in there one day getting some turning done of ten-pin

balls and pins. I was in the shop some time, and looking around among his things, saw this little instrument. I asked him what kind of an instrument it was. He told me that it was an instrument he was trying to improve on; he said he had altered the bellows from a blowing to a sucking bellows. He said he thought he could get a great deal better tone out of it. I looked at the instrument and saw the reeds on the top.

Int. 10. From your examination of the instrument are you able to say whether its construction and operation were like that of the instrument marked R. E. Stilwell, examiner, &c., "Wing?"

41 Ans. I think it was just exactly like it. It looks like the instrument he had there.

Int. 11. When you say "looks like," you speak simply of the external appearance, or did you, on the occasion referred to in Carhart's shop, ascertain how the instrument he had there was constructed and operated, particularly as regards the suction bellows for drawing the air over the reeds?

Ans. I did examine it so as to ascertain its construction and operation.

Int. 12. How does the model before you marked "Wing" differ from it, (if at all,) in the mode of construction and operation?

Ans. I do not think that it differs any.

Int. 13. How long do you think that your visit to Carhart's shop on this occasion lasted?

Ans. Well, I should think it was between a half and three quarters of an hour.

Int. 14. Will you state now in what year it was, and in what part of the year, and the circumstances by which you fix the time?

Ans. It was some time in May, 1839. The way I fix the time is by the marriage of Mr. Needham. He was married in November, 1840.

Int. 15. Did you, in the year 1839, hire a bowling alley in or near Buffalo?

Ans. I did on the first of May, 1839. My rent commenced that day.

Int. 16. For what alley did you want pins and balls which you went to Mr. Carhart's place, as above mentioned, to have turned?

Ans. For the alley I hired on the first of May.

Int. 17. In what part of the month of May was it, to the best of your recollection?

Ans. Well, it was very near the first of May, because I wanted to get the pins and balls as soon as possible, to get the alley going.

Int. 18. At the time Mr. Carhart showed you, and you examined the instrument in question, when you went to get the pins and balls, what was the condition and appearance of the instrument?

Ans. It was dusty on the top; a good deal of dust on it.

Int. 19. Was that the first time that you had observed that instrument in his shop?

42 Ans. I had seen it there before.

Int. 20. How frequently before had you observed it there?

Ans. Well, I should think I had seen it there two or three times before that.

Int. 21. How long before your visit to the shop about the ten-pins and balls in May was the first time that you observed the instrument in question in Mr. Carhart's shop? State according to the best of your recollection.

Ans. Well it was probably between six and eight months before that time. I used to be frequently in his shop getting little jobs of turning done.

Int. 22. At the time you examined the instrument referred to, in May, 1839, was the bellows worked by means of a crutch for the arm of the player?

Ans. It was.

Int. 23. Did you see that instrument afterwards differently arranged in that respect, and how was it?

Ans. I did; I saw it standing on four legs on the floor, and a cord coming down from the bellows attached to a piece of board to put the foot on.

Int. 24. How long should you say this was after your examination of the instrument in May, 1839?

Ans. Well, I should think it was pretty near a year.

Int. 25. Did you in the course of the year 1839 see a seraphine constructed and operating in the same way?

Ans. I think it was in the latter part of that year that I saw it.

Int. 26. Do you remember where you saw it, and who, if any one, showed it to you?

Ans. I saw it in Mr. Carhart's shop. It was in a mahogany case, I should think about three feet wide; it might be a little over that. The doors opened in front, and formed something in the shape of a washstand.

Int. 27. What was Mr. Carhart's circumstances generally in the year 1838, and subsequently while he remained in Buffalo?

(Objected to.)

Ans. Well, he was pretty poor like myself, and had to work hard for a living.

43 Int. 28. What did you see or know of any seraphine or melodeon constructed by Mr. Carhart upon the plan shown in the model marked "Wing," in later years, say 1841, 1842, and 1843?

Ans. I think it was in 1841 that I saw one in a mahogany case standing on three legs. I afterwards saw one on four legs in a mahogany case.

Cross examined by Mr. Fletcher, counsel for defendant:

Cross-int. 29. Are you related to or connected with either of these complainants by marriage or otherwise?

Ans. No, sir.

Cross-int. 30. How long have you been in this employment?

Ans. I think since 1852.

Cross-int. 31. When and by whom was your attention first called to the original instrument spoken of by you, and when next?

Ans. At the time when I went to get the balls turned in May, 1839, and again some six or eight months after that.

Cross-int. 32. How long is it since your recollection or your attention has been called to those earlier examinations of the instrument?

Ans. Probably two or three months, and seven or eight years before.

Cross-int. 33. By whom was your attention so called to that instrument?

Ans. Well, by Mr. Carhart, and by Needham, in talking over old times we used to have at Buffalo.

Cross-int. 34. Aside from your more recent examinations, could you have described the distinguishing peculiarities of that instrument?

Ans. From my survey at that time, if I had never seen it again, I could make a drawing of it.

Cross-int. 35. Could you by such drawing show wherein that instrument differed from other instruments of that day?

Ans. I don't know that I could.

Cross-int. 36. Describe now any difference that you noticed between that and other instruments.

Ans. I have seen other instruments similar to Exhibit "Wing" without legs on them. I have seen them put on the table to play or on the knees to play.

44 Cross-int. 37. If you remember any other differences, please describe them fully and particularly.

Ans. I don't know that I remember any other differences with the exception of the rocking of the instrument.

Cross-int. 38. Do you mean that the differences you have noted above were all that you remember as distinguishing it from other instruments of that day?

Ans. It is about all the peculiarities I noticed in instruments of the same kind.

Cross-int. 39. When did Carhart first have a workshop in Buffalo, and how long, and how frequently were you in the same during the period, as near as you remember?

Ans. I think in 1836. He was there some five or six years, I think, in that shop. He went out some little while, and came back again in the same shop. He had a shop in Buffalo some eight or ten years, I should think. Sometimes I would be in every day for three or four days, and sometimes in a week or two, and sometimes it would be a month or two. I used to have considerable turning done, which called me there, and I often went in when I had no business, we being well acquainted with each other.

Cross-int. 40. State, if you remember, when you first had any turning done there, and how many times per year afterwards, as near as you can remember.

Ans. I had some turning done several times before I had my pins and balls turned there. I used to get banisters turned there for stairs, handles for tools. I had some turning done there in 1838, and

I think in 1837, as near as I can recollect. I know it was soon after he took his shop. I might have gone in his shop three or four times a year, and it might have been a dozen times, to get turning done there.

Cross-int. 41. How long did you operate said bowling alley, or any bowling alley there?

Ans. I kept a bowling saloon only one year.

Cross-int. 42. Did you keep any other bowling alley in that neighborhood? and if so, when, where, and how long?

Ans. I did in Buffalo; I had it nine months; I think it was in 1843 that I had the last one, commencing in May.

45 Cross-int. 43. Do you remember whether you had balls or pins turned more than once?

Ans. Yes, sir, I had them turned for that alley too.

Cross-int. 44. More than twice in all?

Ans. Yes, I think I had them turned over a second time for the last alley.

Cross-int. 45. How many times did you have balls or pins turned by Carhart in all?

Ans. It might have been four or five times—that is, balls turned over again to make them round, and new pins turned.

Cross-int. 46. Might you not have such turning done there ten times between 1838 and 1843, for the two alleys above mentioned?

Ans. No, I don't think I had.

Cross-int. 47. What particular circumstance enables you to fix the first turning of balls by Carhart, or the time when you examined the exhibit "Wing"?

Ans. It was the circumstance of Mr. Needham getting married.

Cross-int. 48. How does that circumstance enable you to fix that as the time?

Ans. Because he came out there to ask me to his wedding after that.

Cross-int. 49. Have you ever testified before for these complainants in any proceedings relative to Carhart's improvements in musical instruments? and if yea, when, and what cause?

Ans. I have. I think it was about seven years ago, as near as I can recollect. It was a cause between Carhart and Mason & Hamlin, I think. I have never been witness for them in any other case.

Cross-int. 50. Did you testify to the same facts and dates, substantially, as you have now?

Ans. Some of them, but not all, as I was not asked the questions.

Cross-int. 51. Who were counsel for the parties in the cause in which you have testified as above stated?

Ans. W. P. A. Fitzgerald and F. B. Cultey for the plaintiffs, and Charles M. Keller for the defendants.

46 Direct resumed by Mr. Browne, counsel for complainants:

Int. 52. You say that from memory alone you could make a drawing of the instrument Mr. Carhart showed you in 1839, but in the next answer, in the 35th cross, you say that you don't know that

you could, by such drawing, show wherein such instrument differed from other instruments of that day. What do you mean by the last answer?

Ans. What I mean is, that from what I had in my mind, I could make an external sketch of the general appearance of it. The inside I know nothing about, except as he explained it to me about the suction and blowing.

Int. 53. You speak of the instrument examined by you in May, 1839, as distinguished from other instruments of that class that you had previously known, in certain respects. In all such previous instruments, was there a rocking of the upper part of the instrument during the playing?

Ans. Yes, sir.

Int. 54. Will you describe a little more particularly these earlier instruments, in which the top part rocked?

Ans. I don't recollect of seeing much difference between them.

Int. 55. Was there a wind chest above and a blow bellows under it?

Ans. The bellows was under the instrument. The reeds were turned other side up from what they are in model "Wing." The air blew out in the old instrument.

Int. 56. Had you seen any instrument, previous to Mr. Carhart's, in which the key-board and the reeds were upon a stationary leaf, or part of the instrument, the bellows apparatus working directly below?

(Objected to as leading.)

Ans. No.

Int. 57. Did you have any other turning of balls or pins for your first bowling alley, except that which was done by Mr. Carhart in May, 1839?

Ans. No, sir.

Int. 58. Do you remember Mr. Carhart's going to work regularly by the week for Nickels & Badger, for a time?

Ans. Yes, sir.

47 Int. 59. Was that before or after your examination of the instrument at Mr. Carhart's shop?

Ans. It was after.

Int. 60. How long after, as near as you can remember?

Ans. Somewheres in the neighborhood of two or three years.

Int. 61. I speak of Mr. Carhart being employed for a time by the firm of Nickels & Badger, in Buffalo, at regular work by the week. Do you know in what year that was?

Ans. I can't recollect whether it was in 1840, or 1841.

Int. 62. When Mr. Carhart showed you the instrument in May, 1839, did he play upon it?

Ans. He did.

Int. 63. You say you hired the first bowling alley on the first of May, 1839, and occupied it one year, namely, till the first of May, 1840. You say that Mr. Needham was married in November, 1840. Please explain a little more clearly than you have done, how Mr. Needham's marriage in 1840, helps you to recollect the fact of exam-

ining this machine in Carhart's shop in May, 1839, nineteen months previous?

Ans. I got acquainted with Mr. Needham the first man I got acquainted with in Buffalo, and at the time I went out to Springville, he went out with me, and we boarded together and slept together all the time till just before I took that alley, and we being well acquainted he came out to ask me to his wedding. On the 4th of July previous to that, he came out with some friends to see me.

Int. 64. You ceased to occupy the alley on the first of May, 1840. Where did Mr. Needham come to invite you to his wedding, which took place in 1840?

Ans. He came to the place where I occupied the alley.

Int. 65. And while you were still occupying it—that is, before the first of May, 1840?

Ans. Yes, sir.

Int. 66. How came Mr. Neednam to invite you to his wedding so long before?

Ans. He did not. He only came out a day or two before he was married. This was on another occasion. The first time he came out was on the 4th of July.

48 Int. 67. You say Mr. Needham came out to the alley to invite you to his wedding, which took place in 1840. You ceased to occupy the alley in May, 1840. How came Mr. Needham to invite you to, or mention the fact of his approaching wedding, so many months before?

Ans. We boarded together.

Cross-examination resumed:

Cross-int. 68. From what date to what date did you and Mr. Needham board and lodge together?

Ans. From some time in 1835 till some time in 1838.

Cross-int. 69. What month in 1838 did he cease boarding and lodging with you, and in what month and year did he first invite you to attend his wedding?

Ans. I can't exactly say what month. I went out there and had the alleys one year, and attended them for the man that bought me out another year. He invited me to attend his wedding in the month of November, 1840, I think the same day he was married.

Cross-int. 70. Do you mean that he first invited you to attend his wedding on the day he was married, or the day before?

Ans. It was either the same day or the day before. According to the best of my recollection it was on the same day.

Cross-int. 71. Where were the two alleys which you leased, and of whom did you hire them?

Ans. The first one I hired was at Cold Spring, two miles from Buffalo. I hired it of Volket Vedder. The one I hired in Buffalo I hired of Horace Thomas.

Cross-int. 72. State whether you were occasionally, and how often, a visitor at the Cold Spring alleys after you ceased to be employed there.

Ans. I was out there very often afterward, more or less, till I left Buffalo, which I think was in the year 1848 or 1849.

Cross-int. 73. What was your employment after you left the Cold Spring alleys until you took the other alleys in Buffalo in 1843?

Ans. Joiner and house finisher, before and after I had the alleys, until I came to New York to work on melodeons.

JOHN G. WING.

49 Subscribed and sworn to before me this 28th January, 1864.

R. E. STILWELL, *Examiner, &c.*

John G. Wing, a witness heretofore examined, appears and desires to correct his answer to the 61st question, and states that Mr. Carhart went to work in the shop of Nickels & Badger in 1839. I got it confused with his being with Mr. Spaulding, a friend of mine, in a carving shop.

JOHN G. WING.

Subscribed before me this 29th Jan., 1864.

R. E. STILWELL, *Commissioner, &c.*

Deposition of Frederick Oliver.

Frederick Oliver, called and sworn on the part of complainants, deposes and says:

Int. 1. What is your name, age, residence and occupation?

Ans. Frederick Oliver; 41 years of age; reside in the city of Buffalo, New York State, and am a surgeon and a dentist.

Int. 2. Where did you reside in 1839, and how were you employed?

Ans. In the city of Buffalo, I was an apprentice to the firm of Nickels & Badger, musical instrument makers.

Int. 3. At what time did you become an apprentice to Nickels & Badger?

Ans. It was in the month of February or March, 1838 or 1839, I don't know which, but one of the two I am quite positive.

Int. 4. How long did you continue with Nickels & Badger?

Ans. One year.

Int. 5 Have you had anything to do with musical instruments, in the way of business, since leaving them?

Ans. No, sir.

Int. 6. Please examine the model now exhibited to you, marked on the end of the wooden frame, R. E. Stilwell, examiner, "Wing,"

50 and say whether you understand its construction, and the mode of its operation.

Ans. I do.

Int. 7. Where, and in whose possession, did you first see an instrument of similar construction and mode of operation?

Ans. In the store of Nickels & Badger, in the possession of Jeremiah Carhart.

Int. 8. Did you so examine and understand that instrument as to say in what respect, if any, the model marked "Wing," differed therefrom?

(Question withdrawn.)

Int. 9. In what year did you see the instrument referred to, in the possession of Mr. Carhart?

Ans. Either in 1838 or 1839.

Int. 10. How frequently did you see it during such year, and under what circumstance did you see it, and how much, and how attentively did you examine it?

Ans. I saw it very often in Mr. Carhart's premises. He used to explain the improvements which he claimed to make upon it, by which means I became also perfectly acquainted with the principle upon which it acts.

Int. 11. Do you perceive any, and if any, what, differences in the construction and arrangement and operation of the model marked "Wing," and of the instrument which you so saw repeatedly in 1838 or 1839, in Mr. Carhart's possession?

Ans. It sppears to be precisely the same.

Int. 12. Have you examined and operated the instrument marked "Wing," so as to understand its internal construction and arrangements?

Ans. I have, and am quite certain it is the same.

Int. 13. Will you describe in general terms in what the mode of operation of the instrument exhibited by Mr. Carhart in 1838 or 1839, differed from that of instruments commonly known and used at that time, of a similar class?

Ans. Mr. Carhart, as I understood it, and understand it now, so improved the instrument commonly known as a seraphine, I
51 believe, as to make the bellows a suction bellows instead of a blowing, thereby improving the tone of the reed, and the quickness of its speaking. There is another part in which I think he improved the instrument, and that was in making the key-board, or top of the instrument, stationary.

Int. 14. How had previous instruments of the same class been made in respect to the features you have mentioned?

Ans. I have seen two kinds of seraphines previous to this of Mr. Carhart's. One a portable kind, to be played upon a table, and with a rocking motion to fill the bellows, the other a stationary instrument with tubes or wind pipes, connecting the bellows with the wind-chest.

Int. 15. While you were in the employ of Nickels & Badger did you become acquainted generally with the reed instruments in use?

Ans. Yes, I did.

Int. 16. At the time when Mr. Carhart was occasionally exhibiting the instrument referred to at Nickels & Badger's shop, was he regularly employed by them in that shop, or was he there as a visitor?

Ans. He was there as a visitor.

Int. 17. Do you know how he was employed? and if so, state.

Ans. He used to repair accordeons and other musical instruments,

flutes and clarionets, for Nickels & Badger, and others, and he was also a tuner, and was generally accounted a most ingenious mechanician.

Int. 18. Was he employed in the shop of Nickels & Badger subsequently, while you were there?

Ans. Yes, sir.

Int. 19. In the course of the same year?

Ans. Yes, sir.

Int. 20. Please state as near as you can, how long it was after you went into the employ of Nickels & Badger that you had your first observation of Mr. Carhart's improved melodeon?

Ans. It was about the time I went there when I first saw it.

Int. 21. Please state a little more precisely if you can. Please state the length of time which you think did not pass after your going into the employ of Nickels & Badger, before you had seen Mr. Carhart's improved melodeon.

Ans. It is my impression that I saw it immediately after going there. I am quite sure of it, too.

52 Int. 22. If it was in March you went into their employ, was it early or late in March?

Ans. If it was in March, it was early in March; I think it was in February.

Int. 23. Did Mr. Carhart, when you first made his acquaintance, give any of his spare time to studying mechanical improvements in musical instruments, or otherwise? and if so, to what extent?

(Objected to as irrelevant.)

Ans. Yes, he did. He made an improvement for turning the bells of clarionets, and another for making the mouth pices of clarionets. That is all I am aware of.

Int. 24. Did you continue to be acquainted with Mr. Carhart until he left Buffalo?

Ans. Yes.

Int. 25. What were his circumstances from 1838 down, if you know?

(Objected to as irrelevant.)

Ans. He was a poor man, a mechanic, supporting h elf by his daily labor.

Int. 26. Do you remember seeing, in the course of two or three years succeeding your employment at Nickels & Badger's, a complete standing instrument exhibited at Buffalo, of Mr. Carhart's manufacture? and if so, about what time was it, and what sort of an instrument was it?

Ans. Yes, I saw such an instrument. I can't tell positively. It was within three years, it might have been two, it might have been the first year I left Nickels & Badger. It was an instrument like a small table, and it opened in front and had a row of keys like a piano, and I think it stood upon three legs which were made to fold up underneath, and it had a little treadle attached to the bellows. It was made so that it could be disconnected. The treadle was made so that it would disconnect, and would work the bellows with the foot.

Cross-examined by Mr. Fletcher:

Cross-int. 27. What month and year did you go to work for Nickel & Badger?

53 Ans. I went to work for them in the month of February or March, in either 1838 or 1839.

Cross-int. 28. Can you state which year? and if not, why not?

Ans. I cannot state which, positively, because I am uncertain, and I have no data to assure me.

Cross-int. 29. What circumstance enables you to state with certainty that it was in either of those years?

Ans. I had a most severe illness, immediately after which I went to Nickels & Badger. My elder brother was married after my illness in the month of October or November, 1839.

Cross-int. 30. Was he married before or during the time you worked for Nickels & Badger?

Ans. During the time I was there, I think. That is the only doubt I have about the two years.

Cross-int. 31. State whether or not you were occasionally in Nichels & Brdger's shop after you left their employment; and if so, how often, and for how long a time.

Ans. It was no longer Nickels & Badger's shop after I left it. Another man had it. I rarely visited it after that.

Cross-int. 32. State where you saw the instrument described in your answer to the 26th question.

Ans. I saw it on exhibition in a store in the Ellicott block.

Cross-int. 33. Was that the first similar instrument that you had seen on legs and with a foot treadle? and in what year was it, as near as you can remember?

Ans. That was the first and only one of its kind I had ever seen upon legs. It was not the first instrument I had seen with a foot treadle, because the old blowing bellows had foot treadles.

Cross-int. 34. What was your employment during the next three years after you left Nickels & Badger's?

Ans. I was a medical student for three years exactly.

Cross-int. 35. Where and with whom did you study? and did you or not take a degree in medecine?

Ans. I studied medicine in the city of Buffalo with Doctors Warner and Mixer. I never took a degree as doctor of medicine, but have been licensed as surgeon, and accepted and served as surgeon in her Majesty's hospital in Montreal.

54 Cross-int. 36. When were you first so licensed?

Ans. In the spring of 1848. I never applied for any license. I studied medicine with a view to practice dentistry.

Cross-int. 37. Were you in 1838 or 1839 a musician? and if so, upon what instruments did you play?

Ans. While I was an apprentice with Nickels & Badger I learned to play a flute, and I had a knowledge of singing by music at that time.

Cross-int. 38. Were you at any time skilful in playing on the melodeon or seraphine?

Ans. No, sir.

Direct resumed:

Int. 39. Did you remain with Nickels & Badger until the retirement of Mr. Nickels?

Ans. I did. The retirement of Mr. Nickels was the dissolution of that firm, and the annulling of my indenture of apprenticeship.

Int. 40. You say you were there one year. Do you mean exactly one year, or about one year?

Ans. Well, I can't swear positively that it was exactly a year. It was so near that I call it a year. It may have been a few days over or a few days under a year.

Int. 41. In the three-legged instrument you saw exhibited in Buffalo during your medical studies, was the air blown over the reeds or was it drawn over them by suction?

Ans. It was drawn over them by suction.

Int. 42. How were the wind-chest and the pumping-chamber or bellows connected? Were there any wind-tubes for the purposes?

Ans. No, sir, there were no wind-tubes.

Int. 43. Was the reeds and key-board stationary?

Ans. Yes, sir.

Int. 44. On which leaf of which wind-chamber was the reed-board attached?

Ans. The reed-board formed the upper leaf of the upper chamber.

Int. 45. Was the upper chamber the exhaust chamber, or wind-chest of the instrument?

Ans. I don't know what you may call it, but it was not the pumping-chamber.

55 Cross resumed:

Cross-int. 46. When and by whom was your attention called to the peculiarities of said instruments after the time you first saw them?

(Objected to.)

Ans. In that spring of 1838 or 1839 I became thoroughly acquainted with the principle of the suction bellows as eliminated by Mr. Carhart in this instrument of which this is a model—during the year of 1838 or 1839 and the one, two, or three succeeding years that I saw this completed instrument in the store of Nickels & Badger and in the store in the Ellicott block.

Cross-int. 47. When next was your attention called to it after all this time you have heretofore testified?

Ans. The next and only time that I heard the principle discussed and explained was at the trial in this city some seven years ago, about this very instrument.

FRED'K OLIVER.

Subscribed and sworn to before me this 28th January, 1864.

B. E. STILWELL, *Examiner, &c.*

Deposition of Alfred G. Badger.

Alfred G. Badger, called and sworn on the part of the complainants, deposes and says:

Int. 1. What is your name, age, residence, and occupation?

Ans. Alfred G. Badger; 48 years of age; reside in Brooklyn, and am a manufacturer of flutes.

Int. 2. Were you formerly associated with Mr. Nickels, under the firm of Nickels & Badger, in Buffalo, in the business of manufacturing and selling musical instruments?

Ans. I was.

Int. 3. While you resided in Buffalo, did you know Mr. Jeremiah Carhart, patentee in this case, and was he ever employed by your firm?

Ans. I did know him, and he was employed by us.

56 Int. 4. Was he at any time employed on regular work by the week in the shop of your firm? and if so, when did that employment commence?

Ans. I don't know exactly when that employment did commence; sometime in the spring of 1839, I think.

Int. 5. Were you married in the year 1839?

Ans. I was.

Int. 6. When did you go to house-keeping after that?

Ans. In the early part of the fall of 1839.

Int. 7. Was Mr. Carhart employed in your firm'a shop at that time?

Ans. He was.

Int. 8. Previous to his coming into the firm's shop, whenever that was, had he been employed by the firm on job work, and what kind of job work?

Ans. He had. Mostly in repairing musical instruments. Accordeons mostly.

Int. 9. For how long a time had he been taking such job work in your shop before he was taken into your shop on time work?

Ans. I think likely about eighteen months. I have no knowledge of any time previous to that.

Int. 10. What day in 1839 were you married?

Ans. I was married 15th of April.

Int. 11. Did you go away from home for the purpose? When did you start, and when did you get back?

Ans. I started about the middle of March. I left home for that purpose, and got back to Buffalo a little before the first of May.

Int. 12. Where was your firm's place of business when you left home, and where was it when you returned?

Ans. It was about the middle of what is called Ellicott's block when I went away, and when I returned it was 200 Main street, on the block below, on the opposite side of the street.

Int. 13. Did you ever have any conversation with Mr. Carhart while at Buffalo, in which he stated to you any proposed improvement on reed instruments?

(Objected to.)

Ans. Yes, sir.

57 Int. 14. If in such conversation Mr. Carhart described to you such improvement, please state what he said.

(Objected to.)

Ans. He called my attention to the fact of an accordeon when it was drawing out, producing a finer tone than when it was pushing in. He asked me if I thought that a bellows could be made that would keep all the time sucking. I told him I did not think it possible. He said that he had it, or could do it, or words to that effect.

Int. 15. Did Mr. Carhart, after this conversation, show you any instrument in which this idea was embodied?

Ans. He did.

Int. 16. What was the first instrument which he so showed you?

Ans. The first instrument I saw was a large accordeon that he had applied a sucking bellows to.

Int. 17. Do you remember what changes he had made in order to make the accordeon so operate? Had he introduced anything into it, and what?

Ans. I could not describe the details, and never did fully understand it. I know that it inhaled the wind constantly, and it did not blow out any.

Int. 18. Can you state whether you saw this accordeon so altered before or after your leaving him to be married?

Ans. It was some time before.

Int. 19. What was the next form of instrument in which you saw the idea of drawing the air over the reeds by suction, embodied by Mr. Carhart?

Ans. The next thing I saw was that he had it applied to some kind of melodeon we had for sale in the store.

Int. 20. Do you remember whether you saw it on that instrument before or after you left home to be married?

Ans. I think it was before.

Int. 21. Did you see that instrument, I mean the altered melodeon, more than once? and if so, how many times should you say, first and last?

Ans. A little less than fifty thousand. I mean that I saw it all the while. What I mean when I say a little less than fifty thousand, I meant that I saw it constantly.

58 Int. 22. Did you come to understand its construction and operation?

Ans. Yes, sir.

Int. 23. Please look at the model now before you marked R. E. Stilwell, examiner, "Wing," and say whether you see any difference between it and the melodeon as altered by Mr. Carhart at the time referred to; and if any, what difference.

Ans. It is the same thing that he had there. One part of the bellows exhausts itself into the other. I don't see any difference in the principle. I don't see any difference at all.

Int. 24. How did Mr. Carhart procure the melodeon which he so altered?

Ans. I never knew, positively. I suppose he got it from the store.

Int. 25. During the time of your acquaintance with Mr. Carhart, and while he was working for your firm, what was his habit as to the study of mechanical inventions and improvements?

(Objected to.)

Ans. That was his principal forte. He was studying improvements; things to be improved. He was a very ingenious man.

Int. 26. What became of the identical melodeon which Mr. Carhart altered, as shown in the model marked "Wing"?

Ans. I never knew what became of it finally.

Int. 27. What was your department of duty in the firm?

Ans. Manufacturing and repairing musical instruments in the shop. I attended to all the work.

Int. 28. How long do you think it was before you went away to be married that you saw the altered melodeon like this model marked "Wing"?

Ans. I could not state definitely about the melodeon; the other thing, the accordeon, probably six or eight months.

Cross-examined:

Cross-int. 29. What circumstance enables you to fix the time when Carhart so altered the accordeon and melodeon?

Ans. I go by the time I went to Buffalo, and the time I got married I date everything from.

59 Cross-int. 30. How does the time of your marriage enable you to say that the accordeon was altered by Carhart previous to that event?

Ans. On account of the peculiar relation that Mr. Carhart sustained to the establishment, doing job work on musical instruments.

Cross-int. 31. Did he sustain that relation wholly before your marriage, or partly before, and partly subsequently?

Ans. He was employed to do work by the job previously, and afterwards by the hour. We hired him, in fact, by the week, but settled by the hour.

Cross-int. 32. State what month and day of the month, as nearly as you can, you ceased hiring him by the job, and commenced hiring him by the week, and when you ceased hiring him by the week.

Ans. As near as I can recollect, he was employed by the week when I returned after being married. All I know about it is that I found him employed by the week when I returned, about the first of May, 1839. I ceased hiring him by the week the latter part of the year 1839, I believe.

Cross-int. 33. State what date your said firm dissolved partnership.

Ans. I think it was in 1841.

Cross-int. 34. State as near as you can what month, you think, in that year?

Ans. I think it was in the spring, but am not positive.

Cross-int. 35. When did you first take up your residence in Buffalo, and when did you remove from there?

Ans. I took up my residence in Buffalo in April, 1838, and removed from there six years from that time.

Cross-int. 36. How many years were you in partnership with Niekels at Buffalo?

Ans. I think about four years, commencing in April, 1838.

Cross-int. 37. Were you a manufacturer of melodeons or other reed instruments?

Ans. No, sir; I was of clarionets, which is a kind of reed instrument, but not like these.

Cross-int. 38. Could you, from your own recollection of the accordeon and melodeon above spoken of by you, without the model
60 before you, and without other help, have particularly detailed such improvements as Carhart made therein?

Ans. Only generally.

Cross-int. 39. Do you mean to be understood that your firm did not employ Mr. Carhart, either at job work or by the week, in the year 1840, 1841, and the early part of 1842?

Ans. After he got through with the time work, he went back on the old system again, job work.

Cross-int. 40. Did your firm, so long as you were connected with it, continue to employ him, either at job work or time work?

Ans. We occasionally employed him at job work. We had very little to do. It was very dull.

Direct resumed:

Int. 41. Where are the books and papers of the old firms of Nickels & Badger?

Ans. I suppose, if they are in existence, John C. Nickels has them in Boston.

Int. 42. Do you remember how Mr. Nickels occupied himself for the most part in the summer and fall immediately following the dissolution of your firm?

(Objected to.)

Ans. Pretty much as usual. I don't recollect any difference.

Int. 43. Was he engaged in politics a good deal that summer and fall?

(Objected to.)

Ans. I think he was. He usually was. If I recollect right, that was about the time of the Harrison campaign.

Int. 44. Do you think it was the Harrison campaign which took place that summer and fall?

(Objected to.)

Ans. Yes.

Int. 45. Upon reflection have you any doubt that it was?

(Objected to.)

Ans. I have none.

61 Int. 46. The Harrison campaign took place in the summer and fall of 1840, did it not?

Ans. Yes, sir.

Int. 47. Then your firm was dissolved in the spring of 1840, was it not?

(Objected to.)

Ans. I think it was not so soon as that ; I was thinking that we were going about four years. I cannot be certain of those dates.

Int. 48. You say, upon cross-examination, that you remember that you saw Mr. Carhart's alteration of the accordeon before you went away to be married, because of the peculiar relation he sustained to the firm at that time. Suppose, in fact, he was in job work for the firm throughout that spring and summer, and until the fall of 1839, do you still think that it was before you went away to be married that you saw the altered acordeon? And state where, in which of the places of business your firm had in that year, you saw it.

Ans. I saw it in the Ellicott block.

Int. 49. Was your firm out of Ellicott block, and in 200 Main street, when you returned home from your wedding ?

Ans. Yes.

Cross resumed:

Cross-int. 50. What business did you pursue in Buffalo after the dissolution of your firm, and how long did you pursue such business in Buffalo ?

Ans. I pursued the same kind of business after we dissolved, and continued it until I left Buffalo ; but I don't remember at what time I left Buffalo.

Cross-int. 51. State, as near as you can remember, when you left Buffalo, and where you removed to.

Ans. I think in 1843 I moved to Newark, in New Jersey.

Cross-int. 52. Was your parter, Nickels, interested in every political campaign during your partnership, as far as you remember ?

Ans. As far as I remember, he was.

A. G. BADGER.

62 Subscribed and sworn to this 28th January, 1864.

R. E. STILWELL, *Examiner*, &c.

Adjourned to 9½ a. m. the 29th inst.

FRIDAY, *Jan.* 29, 1864.

Present, counsel for the respective parties.

Jeremiah Carhart, called and sworn as a witness on the part of the complainants, deposes and says :

Int. 1. What is your name, age, residence, and occupation? and are you the patentee and one of the complainants in this case ?

Ans. Jeremiah Carhart ; 51 years of age ; reside in New York city, and am a manufacturer of melodeons, and am the patentee and one of the complainants in this suit.

Int. 2. When and by what circumstances was your attention first called to the subject of improving reed instruments?

(Objected to.)

Ans. It was in 1836 that I first saw an accordeon brought to Buffalo by a Mr. Coleman, and he showed it to me sometime between May and July of that year. The accordeon struck me as a very curious thing at the very first sight. The curiosity was that I could

get a sixteen-foot tone inside of an inch. A sixteen-foot tone is a double C, and on the organ is obtained by a pipe sixteen feet long. In the accordeon this tone was got by this reed about an inch and a half long, by a quarter of an inch wide.

Int. 3. Did you observe any difference in quality between the blast tones and the suction tones of the accordeon? and what did you proceed to do, if anything, in consequence thereof?

Ans. Yes; I discovered there was a better quality of tone in the suction than in the blowing; and I discovered, too, that the wind was supplied apparently easier in the suction than in the blowing, and by the suction I could have all the reeds on the outside of the chest. That was an important item to get them there, so as to get at them for tuning and repairing.

(Answer objected to as incompetent.)

63 Int. 4. What did you prceed to do in consequence of your observation of the working of the accordeon?

(Objected to.)

Ans. I commenced in the course of a few months to experiment and try and change it to a suction instrument.

Int. 5. What did you do to it? What changes did you make?

(Objected to.)

Ans. I did not make any particular changes until the winter of 1837 and 1838. I then made an inside bellows, and put into the accordeon with a valve on the under side. I don't remember any other changes at that time. I merely tried it to satisfy myself that a suction bellows could be made.

Int. 6. Did you at that time make any change in the position of the blast-reeds of the accordeon?

(Objected to.)

Ans. Not all of them, only a few to try how it would work. I put a few of them on the upper side, and fastened them over the holes with tacks.

Int. 7. You say you made these changes to try the experiment and see if it would work. What was the result?

Ans. The result was not very satisfactory, but I was satisfied I could do it in time.

Int. 8. What did you accomplish or demonstrate by this experiment? and what was it which remained to be accomplished by further experiments?

(Objected to.)

Ans. I demonstrated that I could make suction bellows, but I wanted a better way of working it.

Int. 9. Will you produce a sketch showing the internal construction of the original accordeon, and the change which you made in it?

Ans. Witness here produces a sketch, and says: This is very close to it. Sketch is marked "R. E. Stilwell, examiner." "Carhart."

Int. 10. Please explain what the upper of the two diagrams represents, referring to the parts by letter, and state how they work.

Ans. The upper sketch represents the original accordeon. A is the box containing the reeds. B is the upper set of reeds. C

64 is the lower set. D is the bellows. E is the valve on the under side of the bellows, opening downwards or outwards. The accordeon was held by the right hand ; the bottom was held in the left hand, and worked the bellows. When the bellows was forced together or closed up, it operated the lower or inside set of reeds, and when pulled out it operated on the outer set of reeds. The drawing represents a cross section of the instrument.

Int. 11. What does the lower diagram of the two represent?

Ans. It represents a section of the accordeon after I had fixed it.

Int. 12. What parts are the same as before, and what parts were added or altered? and explain the operation of the instrument as altered, referring to the parts by the letters.

(Objected to.)

Ans. A, B, D and E are all the same, and the additions I made were G, H, and F.

Int. 13. Into what was the air drawn over the reeds?

Ans. It was drawn into the inner chamber H.

Int. 14. What does G represent, and what was its office?

Ans. G represents a spring to force H open or downward.

Int. 15. What drew the air into the chamber H?

Ans. By drawing on D, extending it.

Int. 16. How did the air pass out of the chamber H?

Ans. Through valve F, opening outward or downward.

Int. 17. How far did this instrument, as so altered, operate successfully, and what was the improvement remaining to be made?

(Objected to.)

Ans. It was successful enough to show that I could make it work in that way : that chamber H was too small to supply the reeds with enough wind.

Int. 18. What was the next instrument in which you applied the same mode of operation?

(Objected to.)

Ans. The next one was the melodeon, like the model marked "Wing."

Int. 19. How long was that, as nearly as you can remember, after the alteration of the accordeon, as you have testified?

(Objected to.)

65 Ans. I cannot tell exactly. I suppose it must have been six months or nine months.

Int. 20. Where did you get the melodeon to alter?

Ans. I got that of Mr. Nickels, of Nickels & Badger.

Int. 21. Were you at the time engaged in doing work for that firm, and what kind of work?

Ans. I worked for the firm at jobbing, repairing musical instruments and accordeons.

Int. 22. Describe the instrnment as it was before you made any alteration in it.

Ans. The instrument, before I altered it, was what was termed a rocking-top melodeon. The top was operated by the elbow or left arm. Before I altered it, it was a blowing bellows, and had two

chambers, the upper one was closed when the instrument lay at rest; by pressing down the left-hand end of the top of the instrument, it forced the air from the lower chamber through the valve in the centre-board, into the upper chamber and exhausted it. The wind then would be ready to be pressed through the reeds, by opening the valves under the keys.

Int. 23. How did you alter the instrument?

(Objected to.)

Ans. I opened the bottom, a lower chamber of the instrument, and took the spring out of the chamber, and inserted it in the upper one; that spring extended and pushed the upper chamber open, and the upper spring closed the upper chamber; that I took and put into the lower chamber; then by moving the lower chamber it would draw the air down through into the lower chamber; that was done by changing the valves from the upper side of the boards to the lower side. In order to move that lower chamber I had to have the instrument stand up on something.

Int. 24. Where was the instrument held, or placed for playing, before it was altered by you as described?

Ans. It was set upon a table, or upon the lap or knees.

Int. 25. Please look at model marked "Wing," and say if it differs in any respect, and if so, in what respect, from the melodeon as so altered by you at the time referred to.

Ans. It is a fac-simile of the same thing I had.

66 Int. 26. By whom, or under whose direction, was this model marked "Wing," made?

Ans. By mine, I believe. It was made by my alterations and directions.

Int. 27. Do you mean altered under your direction so as to represent what it now represents?

Ans. Yes, sir.

Int. 28. What became of the identical instrument which you obtained from Mr. Nickels, and altered in the manner you have before described?

Ans. The last I heard of it, I carried it back to Mr. Nickels's store, and changed back.

Int. 29. Who requested you, if any one, to change it back again and return it to the store, and for what purpose?

Ans. Mr. Nickels told me he wanted to sell it.

Int. 30. Did you, while you had it, arrange it so as to operate by the foot?

Ans. I did.

Int. 31. Did you at any time after so altering this melodeon, go into Nickels & Badger's shop on regular time work for them? If so, at what time did you commence?

Ans. It was some time in September, 1839; I think the 28th.

Int. 32. Do you give this date from a written memorandum, and what?

Ans. I give it from a memorandum-book I had at the time, wherein

it is written that I commenced work by the week for Nickels & Badger, September 28, 1839.

(Objected to, as the memorandum-book is not produced.)

Int. 33. Did you work on time for Nickels & Badger till they dissolved?

(Objected to as leading.)

Ans. I don't think I did. I worked for them some eight or nine months by the week.

(Objected to.)

Int. 34. Do you know of your own knowledge when they dissolved?

Ans. I can't say. I think it was 1840.

(Objected to last part of the answer.)

Int. 35. After you left Nickels & Badger, how did you occupy yourself?

67 Ans. I commenced right away a little shop of my own for tuning and repairing musical instruments.

Int. 36. Did you afterwards become connected with Mr. Needham in business, and what business?

Ans. I did become connected with Mr. Needham in the manufacturing of the melodeon that I finally invented after many years.

Int. 37. State as nearly as you can, in what year you and Mr. Needham went into business together.

Ans. In 1846.

Int. 38. Did yon have any business connexion with him earlier than that?

(Objected to.)

Ans. Nothing of any importance, except to work for him occasionally.

Int. 39. Did you, after leaving Nickels & Badger's, get up any full-sized instruments operating in the manner as shown in this model "Wing"?

(Objected to.)

Ans. Yes, sir.

Int. 40. How many and what class of instruments? I mean after you left Nickels & Badger's, and before you appeared for your patent.

Ans. I made one large one, and several small ones.

Int. 41. Can you state at what times or intervals between leaving Nickels & Badger and applying for your patent, you made these instruments?

Ans. In the fall and winter of 1839 and 1840 I commenced the large one I speak of, and that took me a great deal of time to build. I was some two years working over that, I suppose. After that I built several smaller, to try further on the bellows to improve it.

Int. 42. In what respect did you try to improve the bellows?

(Objected to.)

Ans. To simplify it.

Cross-examined by Mr. Fletcher:

Cross-int. 43. Will you produce and annex to your deposition the memorandum-book about which you have testified?

Ans. I can do so. I have not got it here. It is home.

Cross-int. 44. Will you produce it, and have it so annexed?

Ans. I will.

68 Cross-int. 45. When did you first have a work-shop of your own in Buffalo, and how long was it before you went to work for Nickels & Badger by the week?

Ans. I commenced turning for Mr. Cutler in a shop of my own in 1838. I think it must be a year before I went to work for them by the week regularly.

Cross-int. 46. Did you do job work for them both before and after your employment by the week, so long as they continued business in Buffalo?

Ans. Yes, sir.

Cross-int. 47. What became of the several melodeons that you have spoken of as having made after leaving Nickels & Badger's employment, and before the obtaining of your patent in 18 6?

Ans. The large one I took the inside work out, and sold the case to a man that worked for me, and a great portion of them were destroyed or thrown aside to try again.

Cross-int. 48. What became of the inside work of the large one?

Ans. That was destroyed, as far as I know. Some portions of it, I believe, were kept by some of the men, some of the reeds; some that I made in 1846, I sold. I sold a good many while my patent was pending.

Cross-int. 49. How many, and when, and to whom, as near as you can remember?

Ans. I suppose a hundred. Mr. Price had a great many of them. That was in the fall and winter of 1846 and 1847.

Cross-int. 50. When did you file your original application or caveat for the improvements you afterwards got patented in 1846?

Ans. I think the caveat was filed in March, 1846, and the application was filed, I think, in the latter part of June, 1846.

Cross-int. 51. What did you claim and disclaim in said application?

(Objected to, the application being accessible to the defendant, and the only competent evidence of its contents.)

Ans. I didn't disclaim anything that I recollect of; I claimed a suction bellows for reed musical instruments.

Cross-int. 52. Did you claim any other improvements therein, except the bellows? and what, if any?

(Objected to.)

69 Ans. There was a spring on the valve to hold it from flapping. I don't recollect now of any thing else that was in the first claim.

Cross-int. 53. Upon what valve?

Ans. Upon the under side of the bellows.

Cross-int. 54. Did you or not claim other and different improvements in your application on which your letters patent were last reissued in 1857? And if you did, state particularly what the further improvements were.

(Objected to.)

Ans. I had all the improvements when I made my first application that I had then, but they were not embodied in my first application.

(So much of the above answer objected to as is not responsive.)

Witness continues, question being repeated, says:

I did; one was for a tube-board that contained the reeds, and the manner of holding the reeds; as near as I can remember, that is it. There is nothing more that I know.

Cross-int. 55. Did, or not, any of the instruments made and sold by you, prior to the filing of the application for your last reissue in 1857, contain either, and what, of these improvements that were not claimed in your original application?

Ans. There was the tube-board and the manner of holding the reeds. That is all, I believe. I am not sure. I don't remember anything more now.

Cross-int. 56. State, as nearly as you can, how many of the instruments made and sold by you between the date of filing the original caveat and the date of filing your last application on which your last reissue was granted in 1857, contained these improvements in the tube-board and the manner of holding the reeds.

Ans. Nearly every one.

Cross-int. 57. And how many such instruments did you make and sell between those dates, as nearly as you remember?

Ans. I suppose a hundred a year.

Cross-int. When was the model marked "Wing" made, and when was it altered?

Ans. I don't know when it was made. The alteration was made last November, I think.

70 Cross-int. 59. Had you commenced suits for an infringement of this patent previous to the commencement of this suit? If yea, when, and against whom?

Ans. I had one suit brought, I think, nearly seven years ago this summer, against Mason & Hamlin. That is all.

Cross-int. 60. Did that suit come to judgment?

Ans. No, sir.

Cross-int. 61. State whether there was a trial in that suit; when, where, and who were counsel on both sides; and before what judge was it tried?

Ans. There was a trial, I think, in May, 1857, in New York city; W. P. N. Fitzgerald was counsel for the plaintiffs, and Charles M. Keller, counsel for defendants. There were other counsel, but I don't remember their names, and it was tried before Judge Nelson.

Cross-int. 62. State, as near as you can, when you carried the first melodeon you altered back to Nickels & Badger, altered back again to its original form, and how long had you kept it?

Ans. I carried it back, I think, in 1840, and had it a month or two. I don't remember exactly about the time.

Direct resumed:

Int. 63. You say that you altered the accordeon in the winter of 1837 and 1838, and the melodeon some six or nine months later;

about what time would that make it that you altered the melodeon?
(Objected to as leading.)

Ans. It would be in August or September, if it was nine, and it may be more than nine.

Int. 64. Now if it was nine months after the winter of 1837 and 1838, in what year would that be?

Ans. It would be in 1838, as near as I can remember.

Int. 65. Please state, to the best of your recollection, in what year, and what part of the year, the melodeon was altered by you as you have testified.

Ans. It was in 1839, some time. I think in the fall.

Int. 66. Did you go to work on time work for Nickels & Badger in September, 1839?

Ans. Yes. I am sure of it.

71 Int. 67. Now, do you mean that you did not alter the melodeon so as to make it a suction instrument, until after you went into their shop on time work?

Ans. I think I did.

Int. 68. Have you any doubt that you did?

Ans. I don't think that I have.

Int. 69. How long did you have the melodeon, altered to a suction instrument, in your possession before you went to work for Nickels & Badger?

Ans. It is almost impossible for me to say. I had different ones at different times. The one I altered I carried to my boarding-house. I had it to my boarding-house some time and up to my shop several times, back and forth. How long I kept it I can't state. I know I wanted to keep it longer. Mr. Nickels told me he had a customer for it, and he wanted me to alter it back. About what time that was I don't remember.

Int. 70. Can you not say about how many months you had this suction melodeon at your shop, or at your house, or elsewhere, going to and fro, before you were established on hour work at Nickels & Badger's?

Ans. It must have been some months, of course. I can't state just the number of months.

Int. 71. Does the model which is on file at the Patent Office, with your original application, show the reed-cells or compartments under the reeds?

Ans. No. I had two models, one a working model, and the other a sample one, which showed nothing but the bellows.

(Last part of answer objected to.)

Int. 72. What did you do with the larger or working one?

Ans. I left it at the Patent Office, and told Mr. Knowles that if they would accept that as a model, I would like to have it retained in the office as a model. He said he didn't think they would on account of the size, and I told him if they did not, he might keep it—the large one.

(Answer objected to.)

Int. 73. Was it accepted by the office?

Ans. No, sir, it was not.

Int. 74. What then became of it?

72 Ans. I believe Mr. Knowles took it to his house. I never saw it there.

Int. 75. Was that large model made before or after you went to Washington to make your original application for a patent in 1846?

Ans. It was made before by me in Buffalo. I took it with me.

Int. 76. Have you had it in your possession since?

Ans. Yes, sir.

Int. 77. Where is it now?

Ans. I don't know whether it is in the shop or at Baltimore.

Int. 78. Was it sent to Baltimore a few days ago to be put in evidence in this case?

Ans. I don't know. I think it was.

Int. 79. Please describe the construction and arrangement of the reed-board, particulaarly as to the reed-cells in the large model, the one which was presented at the Patent Office and rejected on account of its size, as you say.

(Objected to last part of question.)

Ans. The board was made of stuff about three quarters of an inch thick, that was cut into grooves to correspond with the keys of the instrument; those grooves were glued on over mortises in a thin board about a quarter of an inch thick; the reeds were slipped into these grooves in the thick board; and small v grooves cut into the sides of this notched or tubed board, pretty close down, quite down, to the thin board. That constituted the board, as far as I can describe it now. That formed a cell over each reed. The object of the cell over the reed was to carry the wind from the heel of the reed to the point.

Int. 80. You say the various instruments you made, between the time you left Nickels & Badger, and the time you applied for your patent, were destroyed. Why were they destroyed?

Ans. I didn't consider them worth much.

Int. 81. Why not? What was the reason they were not sold?

Ans. I didn't make them to sell. I made one in one form and one in another; I never had made any bellows at all until I commenced

Int. 82. You say you did not consider any of these instruments worth much. What was the objection to them? Did they,

73 or did they not, practically embody the invention you had made up to that time? If they did, why did you not consider them worth much?

(Objected to.)

Ans. Well, I altered them over so many times they squeaked and acted bad, and I would commence another. That is about all I can explain why I didn't save them.

Int. 83. What made them squeak and act bad?

Ans. It was on account of their not being cut right. The gussets of the bellows, I mean.

Int. 84. With the exception of the bad cut of the gussets, or other inaccuracy in the bellows, did they work well?

(Objected to.)

Ans. They worked the wind through easy enough.

Int. 85. Question repeated.

Ans. They worked pretty fair. Of course they did. But they did not work to suit me.

Int. 86. With the exception of the imperfection in the bellows, was the operation of these instruments practically successful or not? (Objected to.)

Ans. I think they were.

Cross resumed:

Cross-int. 87. Did you authorize Knowles, or any one, to sell or dispose of said instrument which you carried to Washington, and what were the dimensions of the same?

Ans. I told Mr. Knowles that if it was not accepted by the office, I would make him a present of it. The length of it, I think, was about two feet six or eight inches, about fourteen inches wide, and about five and a half to six inches deep, and the legs about two feet high, and the legs folded up, which would make it about seven or eight inches in thickness.

Cross-int. 88. When, and by whom, were you first informed that said instrument was rejected in the Patent Office? State as near as you can.

Ans. I have no recollection of it.

Cross-int. 89. State whether you know that it was rejected there, and how do you know?

74 Ans. I don't know that I can tell how I knew it. I heard that it had been rejected, and that Knowles had carried it to his house, bnt how I heard it I can't tell.

Cross-int. 90. How long was it after you parted with it at the Patent Office, before you regained possession of it again?

Ans. I should think it must be nine or ten years.

Cross-int. 91. When did you get it back again?

Ans. I can't tell that, except that it was nine or ten years from the time I left it. I guess at it any way.

Cross-int. 92. State how, or through whose agency, you recovered possession of it?

Ans. That I can't remember.

Cross-int. 93. Did you pay any, and what, consideration for its recovery?

Ans. Yes, sir. I gave another instrument for it.

Cross-int. 94. To whom, and what was the value of the instrument you gave for it?

Ans. I don't know who I gave it to. I don't remember names. I think it was an instrument we retail at $75.

J. CARHART.

Subscribed and sworn to before me this 29th January, 1864.

R. E. STILWELL, *Examiner, &c.*

Depositions of witnesses produced, sworn, and examined by me, as examiner in equity, on the days therein stated. I further certify that Causten Browne, esq., attended as counsel for complainant, and Arthur Fletcher, esq., attended as counsel for defendant, during said examination.

R. E. STILWELL, *Examiner.*

75 Circuit court of the United States for the district of New Hampshire, in equity.

JEREMIAH CARHART *et al.*
vs.
CHARLES AUSTIN.

TESTIMONY ON THE PART OF COMPLAINANTS, FOR FINAL HEARING, TAKEN UNDER THE 67TH RULE OF THE SUPREME COURT OF THE UNITED STATES BY RICHARD E. STILWELL, EXAMINER IN SAID COURT.—PRESENT: MR. BROWNE FOR COMPLAINANT; MR. FLETCHER FOR DEFENDANT.

THURSDAY, *February* 18*th*, 1864.

Samuel C. Swartz called and sworn on the part of complainants, deposes and says:

Int. 1. What is your name, age, residence and occupation?

Ans. Samuel C. Swartz; 35 years of age; reside in New York, and am a melodeon manufacturer.

Int. 2. Were you present in the city of Baltimore last month at the examination of Mr. George Harvey and Mr. Richard Davis, witnesses for the complainants in this case?

Ans. I was.

Int. 3. Did you see the melodeon referred to and made an exhibit in that deposition taken at that time?

Ans. I did.

Int. 4. Do you know where the melodeon was last before its production in evidence in Baltimore, and from what place was it sent to Baltimore, if at all?

Ans. I do. It was sent from the manufactory of Carhart, Needham & Co., No. 97 East 23d street, New York.

Int. 5. Are you a member of that firm?

Ans. I am.

76 Int. 6. How long had that instrument been in the possession of Carhart, Needham & Co., when it was so sent to Baltimore?

Ans. Since August, 1857.

Int. 7. Do you know the internal construction of that instrument, and how long have you known it?

Ans. I do; and have known it since August, 1857.

Int. 8. As put in evidence as aforesaid at Baltimore, was there any difference or alteration in it, from what it was when it came in the possession of Carhart, Needham & Co., in August, 1857?

Ans. None whatever, except perhaps the bottom valve, which had been torn off, was replaced. I mean the external valve on the lower leaf of the lower chamber.

Int. 9. How, and through whom, did Carhart, Needham & Co. obtain possession of that instrument in August, 1857?

Ans. They purchased it twice; once of Father Donelson, who owned it, and again from a person who purchased it at an auction sale of his effects.

Int. 10. What consideration was given upon its first purchase—namely, from Father Donelson?

Ans. A new melodeon.

Int. 11. Was that new melodeon personally delivered by your firm to Father Donelson, or was it sent from New York to him?

(Objected to as leading.)

Ans. It was sent.

Int. 12. Was it sold at auction, or did the fact of its being so sold come to your firm's knowledge before or after the new melodeon was sent to Father Donelson?

Ans. Afterwards. I mean that the fact of its beiug so sold came to our knowledge afterwards.

Int. 13. Through whom did such facts come to your firm's knowledge?

Ans. Our counsel at that time, W. P. N. Fitzgerald.

Int. 14. What did your firm then do in order to obtain possession of the instrument?

Ans. They authorized Mr. Fitzgerald to purchase it.

Int. 15. Did he so purchase it for you?

Ans. He did.

77 Int. 16. Who personally put the money in his hands to purchase it, and how much?

Ans. I did. I gave him $75.

Int. 17. How much of that was paid for the instrument, and its transportation to New York?

Ans. Fifty-four dollars and seventy-five cents.

Int. 18. State, if you know, all the charges which that sum covered.

Ans. It included $50 as purchase money for the melodeon, and the balance was express charges and cartage, as near as I can remember.

Int. 19. When the melodeon arrived at New York and was opened, were there any names marked upon it, and what were they?

Ans. There were. Mr. Williams, W. P., I think, George Harvey, and N. Callan, commissioner.

Cross-examination by Mr. Fletcher, counsel for defendant:

Cross-int. 20. Did you ever take out the inside work of said melodeon?

Ans. I have.

Cross-int. 21. Did you ever take it to pieces?

Ans. I have taken it apart. I have taken off the key-board, the reed-board, and the upper or stationary leaf of the bellows, which comes off together.

Cross-int. 22. When did you last do that?

Ans. Last January.

Cross-int. 23. Have you any personal knowledge that said instrument had been sold at auction. Were you present at such sale?

Ans. Only as informed by our counsel, Mr. Fitzgerald; I was not present at the sale.

(Objected to the first clause of the answer as not responsive.)

Cross-int. 24. Have you any personal knowledge when it was purchased, and what was paid for it the last time?

Ans. I have no personal knowledge as to when it was purchased, except as to the neighborhood of August, 1857. We paid $54 75 for it, and the expenses.

Cross-int. 25. State the date of your firm purchasing it the first time.

78 Ans. I do not remember the exact time; it was a few weeks previous to the 3d of August, 1857.

Direct resumed:

Int. 26. What interval of time was there between the first and second purchase by your firm?

Ans. I should judge there was a few weeks. As soon as we discovered it had been sold at auction we purchased it.

Int. 27. State, as nearly as you can, the date of the second purchase.

Ans. We settled with Mr. Fitzgerald on the 3d of August, 1857, of the purchase money which we had given him for the purpose of procuring this instrument. The check we gave him a few days previous to that date—perhaps a week. On the 3d of August, 1857, we charged Mr. Fitzgerald with the balance of that check, and charged expense account with $54 75, to pay for the melodeon and charges.

SAM. C. SWARTZ.

Subscribed and sworn to before me this 18th February, 1864.

R. E. STILWELL.

Adjourned to 10 a. m. the 19th inst.

FRIDAY, *February 19th*, 1864.

Present, counsel on both sides.

Mr. Swartz appears and corrects his deposition as follows:

Where I say, in my deposition, that the instrument mentioned and made an exhibit in the depositions of Harvey & Davis, was in the possession of Carhart, Needham & Co. since August, 1857, and that I have known its internal construction since August, 1857, and that it was purchased in the neighborhood of August, 1857, a few weeks previous to the 3d of August, 1857, and that we settled with Mr. Fitzgerald on the 3d of August, 1857, I desire to correct my testimony by substituting September for August.

I gave my testimony yesterday after examining entries made by myself in the cash-book of Carhart, Needham & Co. at the
79 time, which entries, as I then read them, showed that we settled with Mr. Fitzgerald on the third of August, 1857. On my return to the counting-room yesterday, on examining our check-book in order to ascertain how near I had come in my recollection to the date of the check given to Mr. Fitzgerald, I discovered that date to be the 28th of August. I immediately referred to the

cash-book to see how my mistake had occurred. I there found that the top of the page was dated August, but that the month of August had expired, and September had commenced on the same page. Seeing August at the top of the page, (and being in a hurry at the time,) I assumed that the figure 3 in the date margin, at nearly the bottom of the page, was August 3d, not noticing that the month in the margin was changed to September a little above. The entries in the cash-book at that time were all made by myself, and I know them to be correct.

SAM. C. SWARTZ.

Subscribed and sworn to before me this February 19th, 1864.

R. E. STILWELL, *Examiner, &c.*

I certify that the witness herein named appeared before me on the day therein specified; that he was duly sworn and examined, and that the testimony was taken by me as examiner; that counsel, as therein stated, appeared for the complainants and defendants, and that they examined and cross-examined said witness, as shown by said deposition.

R. E. STILWELL, *Examiner.*

80 U. S. circuit court, district of New Hampshire, in eq.

JEREMIAH CARHART *et als.*
vs.
CHAS. AUSTIN.

John R. Nickels, a witness produced by complainants, being duly sworn, doth depose and say, in answer to interrogatories proposed to him by Causten Browne, esq., counsel for complainants, as follows, to wit:

Int. 1. What is your name, age, residence, and occupation?

Ans. My name is John R. Nickels; age, 50; residence, Newton Corner, Mass.; occupation at present that of a gentleman. I've been out of business for a year, and am about to commence.

Int. 2. Were you the Mr. Nickels, of Nickels & Badger, in the musical instrument business in Buffalo in 1839 and 1840?

Objected to.

Ans. I was.

Int. 3. State when you left the firm?

Ans. In the spring of 1840.

Int. 4. How do you fix this time?

Ans. From the dates of my books et cetera.

Int. 5. Is there any fact by which you know that you left the business and quit Buffalo at a certain time, and what time, in the year 1840?

Ans. Particularly, a political fact. It was during the campaign of Harrison. After giving up business I gave my whole attention to it. I had nothing else to do.

Int. 6. Will you state any circumstance occurring in connexion with that presidential campaign which enables you to state approximately the time in 1840 when you quit the business and left Buffalo?

Ans. I came east in June to visit my family, having originated here, and at the same time to attend a convention. I can't say what convention, for I went to all of them.

Int. 7. Was Mr. Jeremiah Carhart in the employ of your firm in Buffalo?

81 Int. 8. Was he employed upon job work at one time outside of the shop, and at another time upon time work in the shop?

Ans. He was, as occasion required.

Int. 9. Of which kind was his first employment for you; by the job or on time? What I mean is this: was there a period of time during which he did work for you at his own place, and a period of time during which he did work for you at your place? and if so, which of the two was first?

Ans. At his own place by the job.

Int. 10. Do you remember the circumstance of Mr. Carhart's being engaged in experiments or improvements upon what were then known as rocking-top melodeons, at some time while you were in Buffalo?

Ans. I recollect his having a rocking-top melodeon, and working upon it; he was a man of experimental ideas, all the time at work.

Int. 11. Will you look at the model marked "Wing," and say if you remember seeing any such thing in the possession of Carhart while you were in Buffalo?

(Objected to as leading.)

Ans. I don't know that I've seen such an instrument for twenty years, not since I went out of the business. Mr. Carhart, while in my employ, borrowed one of them to experiment upon; he asked me to come up stairs and look at what he was doing; I can't say how he had it rigged, but he had a treadle on the end of it, and worked it by his foot.

Int. 12. Did your firm change its place of business from Ellicott's block to Main street, while you were in Buffalo?

(Objected to as leading.)

Ans. They did.

Int. 13. In what place, to the best of your recollection, did you first see this instrument you speak of (the altered melodeon) working by means of a treadle?

Ans. I don't recollect of seeing it anywhere except in that shop in Ellicott's block; still I might have seen it afterwards.

Int. 14. What finally became of the instrument which you lent to Mr. Carhart to make his experiments upon?

Ans. It was disposed of to a customer.

Int. 15. Was it sold as altered, or in its original shape?

Ans. I can't say to whom sold, but it was in its original shape.

82 And in reply to cross-interrogatories proposed to him by Arthur Fletcher, esq., counsel for respondent, this deponent saith as follows, viz:

Cross-int. 16. When did you commence said business in Buffalo?

Ans. I moved there, I think, in 1836. It was within two days of the date when Rathbone was put in prison. I was on my way to Buffalo when that happened.

Cross-int. 17. When did you become connected with said Badger as a partner in that business?

Ans. I can't give you the date. It was in 1838 or 1839. I can't say what time of the year it was. I've not the least idea.

Cross-int. 18. Were there any written articles of partnership and of dissolution? and if so, where are they?

Ans. I can't say whether they were or not.

Cross-int. 19. How long, according to your best recollection, were you in business there with said Badger?

Ans. I couldn't say precisely without reference. My impression is about two years.

Cross int. 20. Might it not have been three years?

Ans. I can't say, I'm sure. He was in my employ so long, and then taken as partner, that I'm sure I couldn't tell.

Cross-int. 21. How long was he in your employ before you took him in partner, according to your best recollections?

Ans. I can't say—a year or more perhaps--I can't split it so as to give dates.

Cross-int. 22. Do you think it was as near two years as one year?

Ans. I couldn't tell. I do not tax my mind with it.

Cross-int. 23. Where are the books of said firm?

Ans. It would be difficult to tell. I have some of them.

Cross-int. 24. Have you refreshed your recollection of dates by reference to any of your books?

Ans. I have.

Cross-int. 25. What date?

Ans. The spring of 1840; the time I settled with Carhart.

Cross-int. 26. What particular date in 1840?

(Objected to because witness has not testified to any particular date in 1840, but to spring of 1840, as just stated.)

83 Ans. I can't give you the dates otherwise than as I have before stated.

Cross-int. 27. What book did you refer to, and was it the first account-book you had on commencing business in Buffalo, and what is the first date in it?

Ans. The ledger. It was not the first ledger; the first date in it seems to be November 11, 1837.

Cross-int. 28. Can you fix by this book or any of your books, the date when you removed from Ellicott's block to your next place of business in Buffalo?

Ans. I cannot.

Cross-int. 29. Or the dates when you took Badger in as partner, and when you dissolved?

Ans. I cannot.

Cross-int. 30. When did you finally remove from Buffalo, and to what place?

(Objected to as fully answered heretofore.)

Ans. I returned to Boston in 1841; I can't say the exact date.

Cross-int. 31. Had you a family then?

Ans. I had none.

Cross-int. 32. In what business were you next engaged, and with whom, if anybody, and where?

Ans. In the music business with Joseph L. Bates, in Boston, at No. 6 Court street, I think.

Cross-int. 33. Did you interest yourself in political campaigns generally after you went to Buffalo, until you left there?

Ans. I did not particularly.

Cross-int. 34. How long after coming to Boston was it before you went into business with Bates, or in his employment?

Ans. I don't recollect. It was some time, however. I think over a year.

Cross-int. 35. What was your employment in the interval?

Ans. I was in no business whatever.

Cross-int. 36. Was or not Carhart employed in job work, both before and after he was employed on time work in your shop?

Ans. My impression is that he was employed in both ways, that is, both before and after the time work. I have no recollection that he worked on job work after he worked on time work.

84 Cross-int. 37. State more particularly whether all of his employment at job-work for your firm was done before you employed him at time work at your shop?

Ans. I cannot say.

Cross-int. 38. Can you swear that he was not employed at job work for you, after you ceased hiring him on time work?

Ans. I cannot say.

Cross-int. 39. How long was he employed by your firm continuously on time work?

Ans. I cannot say.

Cross-int. 40. State as near as you remember.

Ans. I cannot tell anything about it.

Cross-int. 41. How long did he have the melodeon which you have testified about as altered by him?

Ans. I could not say how long.

Cross-int. 42. Will you allow the ledger here produced to be sent to the clerk's office in Portsmouth, to be referred to as evidence in this suit, if desired?

Ans. I have no objection.

And in answer to direct examination resumed by Causten Browne, esq., counsel for complainants, deponent saith as follows, to wit:

D. R. int. 43. You have spoken of going to attend a political convention in June, 1840. Was that before or after you and Mr. Badger dissolved?

(Objected to.)

Ans. It was after.

D. R. int. 44. You say that your ledger shows you no date by which you can tell when you dissolved. Does it show the dates to which your hands were paid up in 1840?

Ans. It does, so far as settlements are concerned.

D. R. int. 45. Did your firm do any business after the last of those settlements?

Ans. Not as a firm.

85 And in answer to cross-examination resumed by Arthur Fletcher, esq., counsel for respondent, deponent saith as follows, viz:

Cross-r. int. 46. Do you know what alterations, if any, besides what you testified, Carhart made in the melodeon which he borrowed of you?

Ans. I do not.

Cross-r. int. 47. To whom did you sell out your interest in the Buffalo concern?

Ans. To George A. Price.

JOHN R. NICKELS.

Feb'y 26th, 1864, before H. L. Hallett, U. S. com'r.

U. S. circuit court, district of New Hampshire, in eq.

JEREMIAH CARHART *et al.*
vs.
CHARLES AUSTIN.

Deposition of Moses Kimball.

Moses Kimball, a witness produced by the complainants, having been duly sworn, doth depose and say, in answer to interrogatories proposed to him by Causten Browne, esq., counsel for complainants, as follows, to wit:

Int. 1. What is your name, age, residence, and occupation?

Ans. My name is Moses Kimball; age, 54 years; residence, Boston, Mass.; occupation, proprietor of the Boston Museum.

Int. 2. Did you ever have a museum in the city of Lowell, Mass.?

Ans. I did.

Int. 3. Please state in what year, and on or about what day in that year, you opened that museum?

Ans. On the 4th of July, 1840.

Int. 4. How long did it continue in operation?

Ans. I had it several years, and then I sold it.

86 Int. 5. Were you ever proprietor of any other museum in the city of Lowell?

Ans. No, sir.

Int. 6. What is the name of the museum you owned?

Ans. The Lowell Museum.

Int. 7. Was there a man by the name of John F. Carney employed as musician in the Lowell Museum at any time while you owned it?

Ans. I have an indistinct recollection, or impression, that a man of that name was employed there.

Int. 8. How are you enabled to state the day and year exactly when the Lowell Museum was opened by you? Please give such circumstances as bear upon this date.

Ans. Because our efforts, while fitting up, were stimulated by the desire to open on the 4th of July, as holidays are especially profitable ones to all places of amusement; we succeeded in so opening, and the remembrance of large receipts on that day fixes the fact upon my memory. It was in 1840, as I am certain from the fact that it was the year of the "hard cider" presidential campaign.

And in reply to cross-interrogatories propounded to him by Arthur Fletcher, esq., counsel for respondents, deponent saith as follows, viz:

Cross-int. 9. Have you any books that enable you to fix the date?

Ans. I don't know whether I have or not.

Cross-int. 10. Do you remember whether you ever had books showing when you commenced operations at the Lowell Museum? And if so, what has become of them?

Ans. I had such books; I don't know what has become of them; I may have them now, or they may have been destroyed; they are of no value to me, the affairs having been settled up.

Cross-int. 11. Had there been any similar museum at Lowell before you commenced there?

Ans. I don't know that there had been. Not to my knowledge.

Cross-int. 12. On what street and number was your said museum, and of whom did you rent the premises?

Ans. It was on Merrimac street, corner of Central. I do not know the number; the premises were leased of a Mr. Wyman. I think the building was called Wyman's block.

87 Cross-int. 13. Do you know whether that Mr. Wyman is living, and where?

Ans. I do not.

Cross-int. 14. State the names of the several persons who were employed by you at the opening of said museum, as far as you can.

Ans. Charles L. Fenton, of Boston; Edward A. Wright, now in California; a blind man as pianist, I don't remember his name. The two first were engaged in fitting up, Mr. Wright afterwards as treasurer, and remained with the establishment for a year or more. The blind pianist was, I think, engaged at the opening.

Cross-int. 15. For how many years did you rent and occupy the premises?

Ans. I rented the premises for five years. I can't say for how many years I occupied them. It was for several years. Whether the whole term or not I cannot say, at least, till I sold the collection.

Cross-int. 16. What is your recollection as to the date of selling, and to whom did you sell?

Ans. I've no recollection about the date. It was sold to Noah F. Gates, of Lowell.

Cross-int. 17. As well as your memory will enable you, state how many years you occupied said museum?

Ans. It was within the term for which I hired the rooms, say from three to five years.

Cross-int. 18. Have you any recollection, either vague or distinct, that there had been a museum at Lowell immediately before yours?

Ans. No, sir. I had always understood that there had never been one there before.

(Last clause of answer objected to as irresponsive.)

Cross-int. 19. Were you present at the opening, and what portion of the time did you personally remain at the Lowell Museum while you owned it?

Ans. I was present on the day of opening. I gave personal at-

tention more or less on each day for nearly a year, and at intervals afterwards.

Cross-int. 20. Were you at the same time interested as proprietor in any other museum, and if so, where?

Ans. I was in the Boston Museum, Boston, Mass.

88 Cross-int. 21. Was the Lowell Museum kept open for company, without any interruption, during the first three years?

Ans. I think it was.

Cross-int. 22. Was it at any time suspended for short periods for the purpose of cleansing or renovating?

Ans. I have no recollection that it was.

Cross-int. 23. State where you were on the 4th of July in the two years previous and the two subsequent to the opening of the museum?

Ans. Of the fourths of July of 1838 and 1839 I spent one in Philadelphia, the other, I think, I spent in Boston. I have no recollection of spending it elsewhere. The two subsequent ones I also think I spent in Boston.

Cross-int. 24. Please state your best recollection as to which year it was you spent the 4th of July in Philadelphia.

Ans. My best recollection is very strong that it was 1839, from the fact that I was there upon business connected with the museum.

Cross-int. 25. If by possibility the museum was opened in 1839, or early in 1840, and you were present on the 4th of July of 1840, could you at this time be certain that it was first opened on the 4th of July?

(Objected to.)

Ans. I am certain that it was first opened on the 4th of July; I am equally certain that it was 1840; I don't think it possible it could have been in 1839, because the collection was not removed to Lowell till the spring of 1840, and because my impression is so strong as to almost amount to a certainty that I was in Philadelphia July 4th, 1839.

Cross-int. 26. Where are your books relative to the Lowell Museum, if in existence, and when did you last see them?

Ans. I don't know where they are, nor where I last saw them. The only book of consequence would be a cash book of receipts and expenditures, and of no value to me.

Cross-int. 27. Have you made any examination with a view to find them?

Ans. I have not; I had no motive to do so.

Cross-int. 28. By whom, and how long since, were you first inquired of relative to fixing the time of your opening of the Lowell Museum with reference to this case?

89 Ans. I should think it might be about four weeks since, I received a note from Mr. Causten Browne, asking if I had recollection of a man by name of Carney having been employed by me at the Lowell Museum. I answered that I had an indistinct recollection of such a man, and that it must have been between the months of May, 1840, and June, 1841, I think.

MOSES KIMBALL.

Boston, Feb. 26, 1864, before H. L. Hallett, U. S. com'r.

Counsel for the complainant desires that the deposition remain open until such time as the witness can search for, and, if possible, find and produce his Lowell Museum cash-book, or other book, and moves the commissioner to adjourn the examination of the witness for that purpose to Tuesday next, March 1st, at ten o'clock, at this place.

Examination adjourned accordingly.

U. S. circuit court, district of New Hampshire, 1863, in eq.

JEREMIAH CARHART *et al.*
vs.
CHAS. AUSTIN.

Henry B. Renwick, a witness produced by complainants, doth depose and say, in answer to interrogatories proposed to him by Causten Browne, esq., counsel for complainants, as follows, viz:

Int. 1. What is your name, age, residence, and occupation?

Ans. My name is Henry B. Renwick; age, 46 years; residence, New York city; occupation, civil and mechanical engineer, and solicitor of patents.

Int. 2. Please state what experience you have had in the examination and comparison of mechanisms upon questions of substantial identity and difference, whether for purposes of judicial in-
90 vestigation or otherwise.

Ans. I was chief examiner in the Patent Office for about five years and a half, where that was my sole business, and I have been frequently called upon, during the last ten years, to examine questions of substantial identity and difference, both in mechanisms and processes, not only as expert in patent cases, but also in other cases submitted to me.

Int. 3. Have you carefully examined the reissue letters patent of Jeremiah Carhart, the complainant, dated 18th August, 1857, for improvement in reed musical instruments upon which this suit is founded?

Ans. I have.

Int. 4. Do you understand the specification and drawings annexed thereto, and the construction and operation of the instrument there represented?

Ans. I do.

Int. 5. What is your judgment of the sufficiency of said description and drawing to instruct a competent mechanic to practice the invention successfully?

Ans. I have no doubt that they are sufficient.

Int. 6. Have you taken apart and examined the model melodeon marked "R. E. Stilwell, examiner, Wing," and put in evidence by the witness Wing for complainant in this case?

Ans. Yes, I have.

Int. 7. Do you understand its construction and mode of operation?

Ans. I do.

Int. 8. Please state whether said instrument embraces in its con-

struction and mode of operation any part of the essential construction and operation of the instrument shown in the said Carhart reissue patent dated 18 August, 1857; and if so, what part?

Ans. It does, and the part is the exhaust bellows or chamber and the exhausting pump in connexion with the reed-board and reeds, the exhaust-chamber and pump being the same as described in the patent; the chamber being in direct connexion with the reed-board, which forms the upper part thereof, and the exhausting pump being hinged fast to the chamber and acting to draw air out of the chamber through valve openings whose valves open into the exhausting pump. the two being so connected together that, by operating a single treadle, or oscillating the lower leaf of the pump,
91 a continuous partial vacuum is maintained in the chamber, so that when the valves on the reeds are opened, each and all of the reeds may be vibrated by currents of air passing into the chamber. The chamber and exhausting pump, both in the exhibit and in the patent, act as a double piston pump.

Int. 9. Did you see the model "Wing" in New York before it was sent here? and if you did, was there any appendage, and what, upon it to work the bellows by?

Ans. I did see it in New York, and, if I remember right, it had a cord or rod and treadle to operate the lower leaf of the exhausting pump, and also a crutch to perform the same duty—the crutch being worked by the arm of the player. There is a bracket with a hole in it in the pine frame of the instrument, through which the stem of the crutch passed.

Int. 10. Have you examined the instrument marked "Fowle, N. A. P., ex'r," and do you understand its construction and mode of operation and will you state whether the same embraces any part, and what part, of the invention described and represented in the Carhart reissue dated 18th August, 1857?

Ans. I have examined the instrument and its internal construction, so far as I can take it apart without destroying parts of it. It has, like the instrument described in the reissue, a reed-board with the reeds on top of the board, so arranged that they may be vibrated by a current of air passing into an exhaust-chamber. It has also, like the instrument described in the reissue, an exhaust-chamber whose top is formed by the reed-board; but in the instrument marked "Fowle," the exhaust chamber is a chamber distinct from the exhausting bellows and complete in itself, and without valves in its lower leaf. In the instrument marked "Fowle," there is also an exhausting chamber or pump, distinct from the exhaust-chamber, and having an upper and lower leaf of its own, and forming no part of the exhaust-chamber. This pump has a valve opening outward, is moved by a treadle, and is connected by tubes with the exhaust-chamber. There must be valves in these tubes, but I am unable to see them or feel them. In the instrument described in the reissue, the exhausting chamber is hinged to the exhaust-chamber, and the lower leaf of the former constitutes the upper leaf of the latter, and the two chambers are in connexion through valves in this leaf, which is

common to both of them, without the intervention of tubes.

92 As I understand the first part of Carhart's invention, as set forth in the reissue, it consists in an exhaust-chamber so constructed and attached to an exhausting pump that its lower leaf forms the upper leaf of the pump, the pump and chamber being in connexion by holes through this leaf, when both of these chambers, which taken together constitute a continuous exhausting apparatus, are combined with reeds by locating the reeds on the top of the upper leaf of the exhaust-chamber, or the leaf which does not constitute one leaf of the exhausting pump. I do not find this invention, or the other features of Carhart's invention, in the instrument marked "Fowle."

And in answer to cross-interrogatories propounded to him by Arthur Fletcher, esq., counsel for respondent, deponent saith as follows, to wit:

Cross-int. 11. In the instrument marked "Fowle," is the exhaust-chamber placed in immediate connexion with the reeds without the intervention of tubes?

Ans. I have already distinctly stated that it is.

Cross-int. 12. Does the board containing the reeds form the upper leaf of that chamber, and do the reeds vibrate by the suction of air over them?

Ans. I have already stated that both those features exist in the machine marked "Fowle."

Cross-int. 13. In Carhart's reissue patent of 18th August, 1857, does he or not claim, as an essential part of his improvement, the placing the reeds in immediate connexion with this exhaust-chamber without the intervention of tubes?

Ans. He does not; he only claims placing them in that connexion when the exhausting chamber is placed in immediute connexion with the exhaust-chamber without the intervention of tubes, as set forth in the answer to the 10th direct interrogatory.

Cross-int. 14. State whether the instrument marked "Fowle" can be operated by the use of one treadle only—that is, will one treadle work both the exhausting bellows or pump and the lower leaf of the exhaust-chamber?

93 Ans. Working the treadle of the exhausting chamber will cause both it and the exhaust-chamber to expand and contract. The instrument is in too dilapidated a state to enable me to determine how well the reeds would speak when the instrument was operated in that way. There is another treadle by which the exhaust-chamber may be worked to contract it, but whether that treadle was put there for that or some other purpose, I am unable to say.

Cross-int. 15. So far as you can judge from the construction of the instrument marked "Fowle," and the one described in Carhart's reissue of 18th August, 1857, what difference in the tone of the reeds would there be, supposing both instruments to be in good playing order?—I mean, independently of the cells over the reeds and of the concentrating chamber in Carhart's patent.

(Objected to.)

Ans. I probably could not answer that question, even if I had one like Carhart's, and the one marked "Fowle" was in good order, because I have not a good ear. I can see a difference in mechanical construction in the two instruments, but, for the reason above stated, I could not tell how that would affect the tone.

Adjourned to February 27th, at 9½ a. m.

FEBRUARY 27TH.

Cross-int. 16. Is it possible that the valves from the exhaust-chamber in the instrument marked "Fowle," may be a part of the under leaf of said chamber opening therefrom into the tubes?

Ans. I think not. I have already stated that I suppose the valves to be in the tubes.

Cross-int. 17. State whether or not the action of the exhausting bellows connected by the tubes with the exhaust chamber is that of a double-acting piston pump.

Ans. I should say not. It is a single-acting pump, pumping out of a chamber of varying capacity.

Cross-int. 18. Will you give the external dimensions of the said connecting tubes, and state how many such tubes there are?

Ans. About nine inches long, one and a quarter thick, and four inches wide. There are two of them.

94 Cross-int. 19. State whether the exhaust-chamber in Carhart's invention as reissued, is one of variable capacity when the instrument is in operation.

Ans. It is.

Cross-int. 20. So far as the exhausting apparatus alone is concerned, and the manner of sucking the air through the reeds, what substantial difference is there in the Carhart improvement and in the instrument marked "Fowle"?

Ans. There is a substantial difference in the fact that tube connexions are necessary in the instrument marked "Fowle," and are not needed in the Carhart improvement; that in the "Fowle" instrument the exhaust and exhausting chambers are distinct and separate from each other, while in the Carhart improvement, the leaf of one chamber forms a part of the other. The Carhart improvement, with the same size of chamber, may be located and operated in a smaller space, and owing to the fact of the hinging of the exhausting upon the exhaust chamber, the latter must contract when the former is expanding. It appears to me that this peculiarity will enable a more regular vacuum to be kept up than is kept up in the instrument marked "Fowle," although I am not perfectly positive on that point. If I am right on this latter point, the same constancy of vacuum could be maintained in the "Fowle" instrument by a skilful player, using not only the pedal applied to the bellows, but also the pedal applied to the exhaust-chamber of that instrument.

Cross-int. 21. Are you a musician?

Ans. I am not.

Cross-int. 22. Would there, in your judgment, be any appreciable difference in the quickness of speaking of the reeds in the Carhart

and in the "Fowle" instruments, supposing both to be in perfect playing order?

Ans. I can't tell.

Cross-int. 23. Do you regard the placing of the exhausting bellows in immediate connexion with the exhaust-chamber, as the essential part or feature of Carhart's invention?

Ans. No, not by itself. The invention, as I understand it, consists in that bellows made and connected, as described, with the
95 exhaust-chamber when the reeds are located substantially on the stationary leaf of the exhaust-chamber. I do not understand Carhart as claiming the exhausting apparatus alone, and irrespective of the reeds and their location, as of his invention, although, so far as I know, the exhausting apparatus, constructed as described by him, is a new exhausting apparatus for any purpose.

(The above answer, after the first clause, objected to as irresponsive.)

And in reply to direct interrogatories resumed by Causten Browne, esq., counsel for complainants, deponent saith as follows, to wit:

D. R. int. 24. Please explain a little more fully what you mean in the answer to the 20th cross-interrogatory, by the use of the pedal applied to the exhaust-chamber in the Fowle instrument for the purpose of maintaining constancy of vacuum.

Ans. I mean that that pedal might be used to aid the pressure of the atmosphere to cause the exhaust-chamber to contract, in opposition to the gravitating force of the weight which is fastened to it.

HENRY B. RENWICK.

Boston, Feb. 27, 1864, before Henry L. Hallett, U. S. com'r.

Counsel for the complainant puts in evidence the following papers:

I. Reissue No. 484, dated 18th August, 1857, of the extended letters patent of Jeremiah Carhart, originally granted 28th December, 1846.

II. Certified copy of reissue No. 372, dated 24th June, 1856, of said original letters patent.

III. Certified copy of said original letters patent.

IV. Assignment J. Carhart to E. P. Needham.

97 *Deposition of Hazard Knowles.*

Hazard Knowles, having been solemnly sworn, and duly cautioned, on oath duly deposed and made answer to the following interrogatories and cross-interrogatories, and subscribed the same in my presence, viz:

Int. 1. What is your age, residence, and occupation?

Ans. I am sixty years old; reside at present in Guantanamo, Island of Cuba, but lately of the city of Newport, U. S., and my occupation, machinist and practical engineer.

Int. 2. What was your residence and occupation during the year 1846?

Ans. My residence was in the city of Washington, D. C., and was occupied as machinist in the United States Patent Office.

Int. 3. Did you in that year receive a visit from the plaintiff, Jeremiah Carhart, at the city of Washington? and upon what business, if any?

Ans. I did receive a visit from the plaintiff, Jeremiah Carhart. Said Carhart came to the Patent Office to obtain a patent for a musical instrument which he called a melodeon.

Int. 4. Did he show you at that time a melodeon with reference to obtaining a patent for improvements contained in it?

Ans. Yes.

Int. 5. If you say that he showed you a melodeon on said visit, state the size of the instrument and its condition, that is, whether in playing order.

Ans. The size of the instrument, to the best of my recollection, was about three feet in length, one and a half wide, and about the height of an ordinary pianoforte; it contained four octaves, and was a perfectly operating instrument.

Int. 6. What occasion had you to examine said instrument at this time, and did you examine it so as to understand its construction and operation?

Ans. First, having the entire charge and classification of all the models deposited in the Patent Office, it was my duty to make
98 myself thoroughly acquainted with each and every model that came under my charge; and, secondly, said Carhart called my particular attention to what he said he had invented, viz., the reed cells and suction or exhaust bellows; which said cells and bellows I carefully examined, and thoroughly understood their construction and operation.

Int. 7. What was done with this instrument, to your knowledge? Was it deposited in the Patent Office? and if not, why not?

Ans. The said instrument was not deposited in the Patent Office, on account of its large size; and a small and incomplete model was substituted and deposited in said Patent Office.

Int. 8. What was next done with it? Did it pass into your possession, and how, and in what year? and how long did it remain in your possession? and to what extent, and by whom, if at all, was it used while so in your possession?

Ans. When the application was made, said instrument being too large to deposit in said office, Mr. Carhart presented it to me. It was in the Patent Office gallery up to about the time application was made, in the month of August, 1846; but I soon removed it to my house where my daughter practiced her music lessons upon it.

Int. 9. To whom, and under what circumstances, did you part with it? Give the name and present residence of such person, if any.

Ans. My daughter's music teacher advised her to have a pianoforte, and I exchanged it with Mr. Richard Davis, a dealer in musical instruments in said city of Washington, for a pianoforte. The present residence of Mr. Davis I do not know.

Int. 10. Did you ever have any other melodeon in your house than the one referred to?

Ans. No.

Int. 11. Did you ever see it again after parting with it, and when, and where, and in whose possession?

Ans. I did see said instrument after I parted with it, at the house of Rev. James B. Donelan, assistant rector of St. Matthew's Church, in said Washington, in June, 1857. Mr. Donelan was then the owner of said instrument.

Int. 12. Was it then in the same condition as when you first saw it, or how otherwise? Please state fully.

99 Ans. It was substantially in the same condition as when I first saw it—age, wear from hard service excepted, and excepting also what is called the concentrating board, which was lost, but the marks where it was located were clearly visible. The instrument did not appear to have been altered or repaired, except patching the flexible parts of the bellows, and was in good operating condition.

Int. 13. Please now describe said melodeon and its operations, and also annex to your deposition a drawing, illustrating such description.

Ans. The drawing hereto annexed represents a perfect cross section of the instrument. The bellows operates by suction, or in an exhaust, instead of a forcing bellows. The reed-plates are slid into grooves over apertures in the upper leaf of the bellows, the reeds proper being located on the top of these plates; over each reed there is a separate cell nearly the length of the reed-plate, open in rear but closed in front. Back of the mouth of all these cells, in the swell, is a strip jointed to the key-frame or cell-board, and whose lower edge can be raised at pleasure by a pedal, and back of this, some three inches from the mouth of the reed-cells, is the concentrating board, or, in the condition I then saw it, the marks where it originally was. The drawing hereto annexed seems to be a perfectly accurate representation of the instrument, except a safety-valve and aperture through the top of the bellows, at the point where safety-valve is written in red ink. Carhart, maker, Buffalo, N. Y., is engraved on a plate on the under side of the front part of the cover.

Int. 14. If you have said that said melodeon was not deposited or left in the Patent Office, on account of its size, please state if any other model was substituted for it, and how it compared with it as to completeness of construction and finish.

Ans. There was a smaller model substituted, and deposited in the office, as I have stated in reply to interrogatory No. 7; said model was incomplete, and, to the best of my recollection, the air-cells were not represented in said model.

100 Cross-examination:

Cross-int. 1. When did you become acquainted with said Carhart, and are you related to or connected with him, by marriage relations or otherwise?

Ans. I first became acquainted with said Carhart in 1846, at the Patent Office in the city of Washington, D. C. I am not related by marriage or in any way connected with said Carhart.

Cross-int. 2. Where have you resided since 1840?

Ans. I resided since 1840 some nine years in Washington, D. C., after which I resided in the city of New York, to the time I came to this Island of Cuba, which was in the month of October, 1861.

Cross-int. 3. State how fully you are acquainted with the construction of melodeons; whether any or what part of them; whether or not you are skilled in playing such instruments, and with the principle involved in their construction and operation.

Ans. I have never made melodeons or any part of them, and am not skilled in playing on such instruments. The reeds of melodeons are usually made of brass, and are quite thin and vary in length according to the notes desired to be produced. These reeds are rivetted at one end between the two branches of the reed-plates, and when in operation the reeds are caused to vibrate and give sound by the passage of the air through the reed-plates.

Cross-int. 4. State to what extent you have played on the Carhart instrument inquired of; what consideration you paid for it, and what you received therefor on parting with it.

Ans. I never practiced on the Carhart instrument; I paid nothing for it. Mr. Carhart presented it to me and I gave the said instrument in part payment for a pianoforte. I do not recollect the date when this exchange was made, but it was in the fall of 1846.

Cross-int. 5. Please state your means of knowing whether said instrument was or was not in the same condition at the time inquired of in interrogatory 12 as when you parted with it.

Ans. I visited the house of Rev. Mr. Donelan, where I opened said melodeon and found it as I have before stated.

101 Cross-int. 6. State when first, and how many times since, you have had communication with said Carhart or with any agent of his firm, verbally or by letter, relative to said instrument, and whether or not your recollections of it have been refreshed, and to what extent, by such communications.

Ans. I have had no communication with said Carhart ar any agent of his firm since 1857, at which time I gave my deposition in the city of Washington, to be used in an action commenced by said Carhart as plaintiff.

Cross-int. 7. State whether or not the drawing requested in the interrogatory No. 13 is an original one made by you from your own knowledge and recollection of the instrument, or whether it was furnished to you, and by whom, or whether it was made by the assistance or suggestion of any one, and by whom.

Ans. The drawing was transmitted to me in a letter from Causten Browne, of Boston, which I received the latter part of January last. By whom said drawing was made, I do not know.

Cross-int. 8. State by whom, if anybody, the said melodeon was objected to or rejected at the Patent Office as a model on account of its size.

Ans. I do not recollect who the examiner of that class of models was at the time said melodeon was rejected on account of its large size.

Cross-int. 9. State whether or not the model substituted for said melodeon, if any was substituted, embraced or contained the improvements or invention for which said Carhart applied and obtained his original letters patent in 1846.

Ans. The model substituted for said melodeon contained the suction bellows, but to the best of my recollection the reed-cells were not represented in said model; but whether it contained all that Mr. Carhart applied for and obtained in his original letters patent, I am unable to state, never having read his specifications or claim.

Cross-int. 10. Do you know, or can you set forth, any other matter or thing which may be a benefit or advantage to the parties at issue in that cause, or either of them, or that may be material to
102 the subject of this your examination, or the matters in question in this cause? and if any, set forth the same fully and at large in your answer.

Ans. I do not know of any other matter that would be relevant to the said cause.

HAZARD KNOWLES.

Taken at Santiago de Cuba, March 23d, 1864, before E. F. Wallace, U. S. consul.

113 THE UNITED STATES OF AMERICA, *District of Maryland, to wit:*

JEREMIAH CARHART and *al.*
vs.
CHARLES AUSTIN. } In equity.

Deposition of Richard Davis.

Richard Davis, being duly sworn, deposeth as follows, to wit:

Ans. to int. 1. My name is Richard Davis; my age is about sixty-three years; my present residence is Baltimore, Maryland, and my occupation is that of a retired merchant.

Ans. to int. 2. About the year 1846 I resided in Washington city, and kept a pianoforte and music store.

Ans. to int. 3. I remember selling, in or about the year 1846, a pianoforte to Mr. Knowles, of Washington city; his first name I do not now know. I received payment therefor in a small melodeon and the balance in money—part payment in the melodeon, the balance in money.

Ans. to int. 4. How long I retained possession of said melodeon I do not now remember, nor to whom I sold the same. I remember selling a small melodeon to the Rev. Mr. James B. Donelan, but in a large establishment, do not recollect whether it was the one in question or not.

Ans. to int. 5. I recollect selling the melodeon in question, but to whom cannot state positively.

(Here the counsel for the complainants produced an instrument which I, the commissioner aforesaid, have marked on the top of the "bellows board," near the safety-valve, "Exhibit, A. S. R., com'r," and the attention of the witness being directed to it, he further deposes and says, to wit:)

Ans. to int. 6. That the instrument exhibited appears to be the same one I sold to the Rev. James B. Donelan, as well as I can recollect after the lapse of time.

114 Ans. to int. 7. I can discover no difference between the instrument exhibited and the one that I sold to Rev. James B. Donelan.

Ans. to int. 8. I did not, at that time, keep regular account books, and have none such which will enable me to ascertain the particular instrument I purchased from Mr. Knowles, or the one I sold to Mr. Donelan.

Cross-examination. On cross-examination on behalf of the respondent, the said witness further deposes and says, to wit:

I had been engaged in the business of buying and selling musical instruments some eight or ten years before I bought the instrument referred to as being bought from Mr. Knowles, and continued in such business until the year 1859. I do not recollect when I first commenced keeping regular accounts, perhaps some four or five years subsequent to, or more, after the year 1846.

I have seen the instrument I sold to Mr. Donelan several times since such sale, but when I first saw it afterwards, do not recollect. I saw it soon after I sold it to Mr. Donelan, but do not recollect when I saw it last. I had no interest in keeping it in my mind. I saw it many times shortly afterwards, but when I last saw it before to-day do not remember; perhaps three or four years after I sold it I saw it last, in the year 1849, or thereabouts. I can't speak positively.

If three or four instruments of the same size were now produced before me, made about the same time, I could not, after so many years, identify the particular one sold by me to Mr. Donelan, even supposing that it were among them.

I do not recollect any distinguishing difference between the instrument I sold to Mr. Donelan and other small melodeons made at the same time.

RICH'D DAVIS.

Subscribed and sworn to before me this 26th Jan., 1864.

AND'W STERETT RIDGELY,
U. S. Com'r for Md. Dis't.

115 *Deposition of George Harvey.*

And the said George Harvey, of Washington city, being produced and examined on interrogatories propounded on behalf of the said complainants, deposes and says, to wit:

Int. 1. What is your name, age, residence, and occupation?

Ans. My name is George Harvey; my residence is Washington city,

District of Columbia; I am about 50 years of age, and my occupation is that of a wood and coal merchant.

Int. 2. Between the years of 1846 and 1857, did you know the Rev. James B. Donelan, and what were your relations with him?

Ans. I knew him well, being a parishioner of his during that time, and frequently at his house, some two or three times in the week, and constantly at his church, being connected with the Sunday school, and prefect of a sodality.

Int. 3. Look at the instrument now produced, marked "Exhibit, A. S. R., com'r," and state fully when, if ever before, you saw it, and in whose possession it then was.

Ans. I have seen that instrument before, and saw the same shortly after it was purchased of Mr. Davis, as I understood. It was in the possession of the Rev. James B. Donelan; this was some time between the years 1846 and 1850, shortly, a few days, after the instrument was purchased by Mr. Donelan. I cannot state the year particularly.

Int. 4. Where was this?

Ans. This was at the parsonage, then the residence of Mr. Donelan, in Washington city.

Int. 5. When did Mr. Donelan leave Washington.

Ans. About the year 1857, I think.

Int. 6. State if you know what then became of this melodeon.

Ans. After Mr. Donelan left or resigned the pastorship of St. Matthew's church, Washington, the melodeon was sent, with his other effects, to his mother's in Washington, with whom resided Mr. Drury and wife, the latter being a sister of Mr. Donelan. Subsequently, sometime in the year 1857, the same melodeon, in July or August of that year, was sold with the effects of Mr. Drury at public auction, and was bought by a furniture dealer of the name of Wall. I
116 subsequently, some two or three weeks after the sale, received a letter from Mr. Donelan, stating that the melodeon was sold without authority, and requesting me to try and get it again from Mr. Wall. I called on Mr. Wall, who refused to give it up unless at an advanced price on that which he paid for it at auction. At the suggestion of a Mr. Fitzgerald, of New York, who advanced me the money, I paid Wall fifty dollars, and he let me have the instrument. After I got the instrument into my possession I took it up to Commissioner Nicholas Callan, and in the presence of Mr. Callan, in his presence and that of a Mr. W. P. Williams, I put my name on it, they at the same time doing the same as to their names. After this was done, I packed the instrument up, and sent it to Mr. Fitzgerald, of New York, by Adams's express, carrying it to the office myself, I think. I wrote to Mr. Fitzgerald, enclosing him a draft for the balance of the money advanced by him, and received in reply this receipt:

(The witness here produced a paper hereunto annexed, and marked "Exhibit B," the said paper being received subject to objections.)

Int. 7. Who was Mr. W. P. Williams? And state, if you know, whether he is now alive.

Ans. Mr. Williams was formerly organist of St. Matthew's church, and died over a year ago.

The said witness being cross-examined on behalf of the respondent, further deposes and says, to wit:

Cross-int. 1. State whether or not you were present at the auction sale alluded to in your examination in chief.

Ans. I was present at the action sale referred to.

Cross-int. 2. What did said instrument bring at said sale?

Ans. I do not exactly remember, but think some 8 or 9 dollars.

Cross-int. 3. When did you next see the instrument after sending it to Mr. Fitzgerald?

Ans. I next saw it here in the office of the commissioner, at the examination of to-day.

GEO. HARVEY.

Subscribed and sworn to before me this 26th Jan., 1864.

AND'W STERETT RIDGELY,
U. S. Com'r for Md. Dist.

117 *Exhibit B.*

NEW YORK, *Sept.* 5, '57.

DEAR SIR: I have the pleasure to inform that your letter enclosing a draft for the balance of the money I sent you, and the receipt by the express company, was duly received, and that the little old instrument is now in the proper hands. I am very much obliged to you for your exertions in the matter, and beg you will rest assured that no blame has been imputed to you.

I have been led to suppose that Mr. Williams knew the little instrument as early as the latter part of 1846, when Mr. Donelan first procured it, or perhaps while it was at Davis's before the purchase, and I will be very much obliged to him if he will inform me if such is the fact, or what he knows of its early history. It was undoubtedly used for colored people in the Christmas services of 1836, and I should be glad to know if Mr. Williams or any other person is aware of the fact. It was the first Christmas after Mr. James B. Donelan was appointed rector of St. Matthew's church. I do not know whether I was ever personally acquainted with Mr. Williams. Indeed, I do not know which Mr. Williams I am writing about, except he was mentioned to me by Mr. Donelan as knowing a good deal about the instrument in question.

Please ask him to write me on the subject, and very much oblige yours truly,

W. P. N. FITZGERALD.

To GEORGE HARVEY, Esq.

P. S.—Please present my kind regards to Mr. Callan, and say that I received his letter and hope to see him when he next visits New York, or when I first visit Washington. My office is 271 Broadway, corner of Chambers st.

F.

118 *Deposition of Rev. James B. Donelan.*

Rev. James B. Donelan, having been first duly sworn according to law, deposes and says as follows, viz:

Int. 1. What is your name, age, and place of residence?

Ans. James B. Donelan; age, about forty-eight years, and residence, city of Burlington, Iowa.

Int. 2. Where did you reside before you came to reside in Burlington?

Ans. In the city of Dubuque, Iowa.

Int. 3. How long did you reside there?

Ans. About four years.

Int. 4. How long have you resided in the city of Burlington, Iowa?

Ans. A little over two years.

Int. 5. Where did you reside prior to your removal to Dubuque?

Ans. At Washington city, District of Columbia, with the exception of one year spent abroad.

Int. 6. What is your calling, and how long have you pursued the same?

Ans. I am a Catholic priest, and was ordained in the year 1842.

Int. 7. During your residence in Washington city did you make the acquaintance of Richard Davis?

Ans. Yes, sir, I did.

Int. 8. What was his vocation?

Ans. A music dealer and seller of musical instruments.

Int. 9. Can you recite any circumstance of particular interest to you attendant upon a visit by you to his store? If so, do, stating the time also.

Ans. Mr. Davis, who was a member of my congregation, knew that I was fond of music. I frequently visited his store. On one occasion he told me he had an instrument which he knew would please me; he opened it, and played upon it in order that I might hear it; the air I so well remember that it has been played in Burlington at the church at which I am stationed at present. Since my residence here I was pleased with the instrument, and purchased it. I have always considered it was the first of the kind brought to Washington city.

119 The reason I think so was because I was so well acquainted with the music dealers of Washington that an instrument of that kind could not well have been there without my knowledge; this occurred in the fall of the year 1846.

Int. 10. Did any circumstance occur leading you to become acquainted with the internal structure of that instrument? If so, state such circumstance or circumstances.

Ans. I am quite sure that Mr. Davis removed some portion of the internal structure, and taught me on that occasion how to do the same, in order to make occasional necessary repairs. The reason why Mr. Davis removed some portion of the internal structure was because a reed was out of order and would not speak. The instru-

ment was in my possession for ten or eleven years, and constantly used until unfit for use, or worn out. During all that time I had occasion, perhaps ten or twenty times every year, to open the instrument, remove certain portions and repair it myself, and consequently became perfectly familiar with its internal construction. To remove the reeds I used a small screw-driver, and when the instrument became old I could remove the screws from the sounding-board with a penknife, and frequently did so. I thought I made an improvement myself by an additional cushion attached to the swell-board. My object was to subdue the tone for the piano.

Int. 11. Can you recall before your mind a notion quite satisfactory to you of the parts and their relation to each other composing the internal mechanism of that instrument, so that you could draw a plan of the same?

Ans. I feel perfectly satisfied that I can, with the exception of the interior of the bellows, which interior I never saw.

Int. 12. Can you present to the notary a plan which will represent in lines, words, and letters the construction of that instrument and the relation of its several parts to each other?

Ans. I can; the drawing I now present you is such a one.

(Here the witness handed me a drawing of the same, which I have this day marked, filed, and signed my name on, and return the same with this deposition.

WM. GANETT, *Notary Public.*)

120 Int. 13. Can you mention any mark upon the instrument which you testify to having purchased from Mr. Davis? If so, what?

Ans. There was a metallic plate upon it bearing the name of Carhart, maker, Buffalo, N. Y. (I think the word maker was there.)

Int. 14. How many instruments like that have you ever seen?

Ans. I never saw one before or since built similarly.

Int. 15. In that instrument how did the perforated board rest?

Ans. It rested on the back end of the keys.

Int. 16. Do you remember the circumstance of Mr. Davis exploring the instrument to discover the cause of the silence of one of the reeds? If so, explain the process of such exploration.

Ans. I remember perfectly well that at the time I purchased the instrument Mr. Davis discovered that one of the reeds did not speak; he therefore proceeded to repair it. He removed the entire cover, or threw it back on its hinges, lifted the perforated board, removed the sounding or concentrating board, which was detained in its place by small screws; then with, I think, a screw-driver, with some little difficulty, after having lifted the swell-board, removed the offending reed. He discovered the cause to be a mote, which he removed, and then returned the reed to its place.

Int. 17. Did he say anything to you then?

Ans. He intimated to me that when the instrument again would get out of order I could in the same manner as he had done repair it, and explained to me the mechanism of the instrument in order that I could repair it myself in the future.

Int. 18. Were motes upon any subsequent occasion the cause of your taking said instrument apart for their removal?

Ans. They were, annoyingly frequent.

Int. 19. State any facts which you may remember about the mechanical arrangement or construction of the instrument.

Ans. I considered the perforated board an imperfect piece of mechanism, being easily exposed to fracture, as eventually occurred. Regarding the sounding-board, the screws which had retained it in position soon became useless by reason of their frequent removal, and hence the sounding-board was finally removed or thrown away. It
121 was impossible to remove a mote from the reeds without first removing the sounding-board. The swell board was so arranged as to admit a greater amount of air to pass under one end than the other. It was held down by a wire spring, and raised at pleasure by an iron lever acted upon by a small pedal attached by a small screw to the left front leg near the bottom. The attachment was made by a piece of gut. The bellows were operated by a pedal very similar to a boot-jack. I will particularize, that above each reed there was a cavity or reed-cell, that this cell was closed in front and open in the back, and the swell and suction bellows, chamber and concentrating board, and cells and reeds, as represented in the drawing I have presented, are entirely accurate, without exception.

Int. 20. Have you upon any former occasion sworn to any description of said instrument?

Ans. About June, 1857, I gave an affidavit about the same matter.

The following cross-interrogatories came to me and were by me put to the witness.

WILLIAM GANETT, *Notary Public.*

Cross-int. 1. Are you well acquainted with the construction of melodeons? and are you a skilful player on such instruments, and well acquainted with the principles involved in their construction and operation? and if yea, when did you first become so acquainted?

Ans. I am tolerably well acquainted with their construction. I am not a skilful player; only play for my own amusement. I understand the mechanism pretty well, but do not pretend to any perfection. The first melodeon I ever saw I purchased of Mr. Davis, in Washington city, in the year 1846.

Cross-int. 2. To what extent, if any, have you played on the Carhart instrument inquired of? And if ever owned or possessed by you, state for how long a time, and what you paid for it, and what you received for it.

Ans. I played on it for my own amusement for ten years, about, at leisure moments; and the little I know I learned on that instrument. I owned that Carhart instrument for ten or eleven years. I paid, I think, sixty or seventy dollars for it, and it was worn out in
122 my service, and thrown aside. In the year 1857, Mr. Fitzgerald discovered where it was after a long search. I gave it to him, and he promised me another new melodeon for it, which was given to me by his client and is still in my possession.

Cross-int. 3. Had the instrument undergone any repairs or alterations, and what, and by whom, during your acquaintance with it?

Ans. The only repairs were by myself, and of a trifling nature, by no means involving the idea of it.

Cross-int. 4. State whether or not you have had any communication with Carhart, or with any agent of his, relative to said instrument; and if yea, how many times, either verbally or by letter, and whether your recollections have been refreshed by such communications, and to what extent.

Ans. In the year 1857 I had a visit from an agent of Carhart, a Mr. Fitzgerald, who was in search of this very instrument, and to whom I presented it; a few weeks afterwards, finding myself in New York, on my way to Europe, I called by invitation at the manufactory of Carhart & Needham, had a conversation with one of these gentlemen, (Mr. Carhart, I think it was,) and received from him a present of a new instrument in consideration of my having given his agent, Mr. Fitzgerald, the old one. I have had no correspondence with any of the parties since.

Cross-int. 5. State whether or not you have been aided by any one, any by whom, in the description, drawing, or other representation, you may have furnished of said instrument.

Ans. I have made no drawing myself, but the one submitted to me by plaintiff's attorney, and by me presented to the notary, is correct; in my representation of the instrument I have been aided by no one.

Cross-int. 6. Do you know, or can you set forth, any other matter or thing which may be a benefit or advantage to the parties at issue in this cause, or either of them, or that may be material to the subject of this, your examination, or the matters in question in this cause? If yea, set forth the same fully and at large, in your answer.

Ans. I do not know that I have.

123 Re-examination:

Int. 1. Do you know that Fitzgerald or his clients ever actually got the possession of that instrument?

Ans. I do not. Soon after the interview with Mr. Fitzgerald regarding the instrument, I left Washington, and at the sale of the furniture of my residence, this old instrument was sold by mistake; I learned this in New York, and I know nothing further about its possession.

Int. 2. Prior to seeing the drawing presented to you by plaintiff's attorney, could you have drawn a plan of said instrument?

Ans. I think I could, prior to seeing the drawing; I had such a clear impression of all the parts of the instrument that I could accurately describe it, and find the description made to my hand, and presented exactly, conformed to the figure in my mind.

Int. 3. What is the state of mind produced by the contemplation of this drawing? is it that of suggesting some mental fact that would not exist without it, or does it respond to a plan already in your mind merely?

Ans. The plan suggests to me nothing new, nor the absence of any thing, but exactly responds to the picture which is and has been in my mind of the instrument.

JAS. B. DONELAN.

Subscribed and sworn to before me this 6th day of February, 1864.
WILLIAM GANETT, *Notary Public.*

124 TESTIMONY FOR RESPONDENTS.

STATE OF MASSACHUSETTS, *County of Suffolk, ss:*

I, Robert H. Eddy, of the city of Boston, of the county of Suffolk, and State Massachusetts, on oath declare and say: that by profession I am a civil engineer and solicitor of patents; that I have been engaged in such business for upwards of thirty years, and have frequently been called to testify as an expert in patent cases in the circuit courts of the United States. That on the twenty-fifth day of August, of the year eighteen hundred and sixty-three, I was called upon and requested by Charles Austin, of Concord, New Hampshire, to examine a musical instrument or melodeon, purporting to have been owned and used by one French, of Lowell, (deceased.) That I did see and examine the same, and did mark thereon with pencil "R. H. E, August 25, 1863." I found, in my opinion, in that instrument all the subjects as claimed in the patent of Jeremiah Carhart, which, as reissued, bears date August 18, 1857.

In testimony whereof, I have hereunto set my signature this twenty-sixth day of August, A. D. 1863.

ROBERT H. EDDY.

STATE OF MASSACHUSETTS, *County of Suffolk, ss:*

On this 26th day of August, A. D. 1863, before me personally appeared the abovenamed Robert H. Eddy, and made oath that the foregoing statements made and signed by him are true to the best of his knowledge and belief.

F. A. BROOKS, *Justice of Peace.*

125 United States circuit court, district of New Hampshire, in equity.

JEREMIAH CARHART *et al.*
vs.
CHARLES AUSTIN.

Isaac T. Packard, of Concord, in the county of Merrimac, in said State, of lawful age, being duly sworn, says:

I have been engaged in the manufacture of melodeons for more than twenty years last past, and am well acquainted with such instruments and the principles involved in their operation, and have, for about twenty years, been in the habit of playing on such instruments. I have this 27th day of August, 1863, at the request of Mr. Charles Austin, of Concord aforesaid, examined at his shop, and instrument now generally known as a melodeon, but formerly, and occasionally

now, called a seraphine, identified by the mark, "R. H. E, August 25, 1863," in pencil, in that part of the reed-board through which the pins pass to the valves. I am well acquainted with the principles and claims of Carhart's patent, having manufactured melodeons under that patent from 1854 to 1861. In my opinion, the instrument now present, identified as above described, involves all the claims set forth and specified in the Carhart patent, as reissued Aug. 18th, 1857, and and contains each of the three improvements set forth in the said Jeremiah Carhart's reissued patent.

ISAAC T. PACKARD.

STATE OF NEW HAMPSHIRE, *County of Merrimac, ss:*

On this twenty-seventh day of August, A. D. 1863, before me personally appeared the abovenamed Isaac T. Packard, and made oath that the foregoing statements made and signed by him are true, to the best of his knowledge and belief.

ARTHUR FLETCHER,
Justice of the Peace.

126 U. S. circuit court, district of New Hampshire, 1863, in eq.

JEREMIAH CARHART *et al.*
vs.
CHAS. AUSTIN.

David M. Dearborn, of Concord, in the county of Merrimack, and State aforesaid, of lawful age, being duly sworn, says:

My occupation for the last twenty-five years has been the manufacture of seraphines, melodeons, and other reed instruments, and am well acquainted with the construction and operation of such musical instruments.

I have, this 27th day of August, 1863, examined at the shop of said Austin, a melodeon or seraphine having marked in pencil on that part of the reed-board through which the pins pass to the valves "R. H. E, August 25, 1863." In my opinion thisinstrument contains all the principles specified and claimed in the patent of Jeremiah Carhart, as reissued under the date of August 18th, 1857.

D. M. DEARBORN.

MERRIMAC, *ss:*

Subscribed and sworn to this 27th day of August, A. D. 1863, before me.

ARTHUR FLETCHER,
Justice of the Peace.

127 U. S. district court, district of New Hampshire, in equity.

JEREMIAH CARHART and *al.*
vs.
CHARLES AUSTIN.

Nathan Farley, jr., of New Boston, in the county of Hillsborough, and State of New Hampshire, of lawful age, being duly sworn, says

I have been employed in the manufacture of musical instruments for about twenty-seven years, and from 1838 to 1852 was employed in making reed musical instruments. I am well acquainted with the construction and operation of such instruments of various sorts.

I have carefully examined, this 27th day of August, A. D. 1863, a melodeon or seraphine, at the request of Charles Austin, of Concord aforesaid, at his shop, identified by the mark "R.H.E, August 25, 1863." As and of the firm of Farley & Pearsons, I manufactured and sold instruments under the said Carhart's original patent for five or six years, viz., from 1847 to 1852, having made an arrangement with said Carhart for the exclusive right to use his improvement in Worcester county, Massachusetts.

I consider the instrument before me, identified as above described, in principle the same thing I used to manufacture under the said Carhart's original patent.

NATHAN FARLEY, JR.

STATE OF NEW HAMPSHIRE, *Merrimac county, ss:*

On this 27th day of August, A. D. 1863, before me personally appeared the abovenamed Nathan Farley, jr., and made oath that the foregoing statements, made and signed by him, are true to the best of his knowledge and belief.

ARTHUR FLETCHER, *Justice of the Peace.*

128 U. S. circuit court, district of New Hampshire, in eq.

JEREMIAH CARHART *et al.*
vs.
CHARLES AUSTIN.

Joseph W. Prescott, of Concord, in the county of Merrimac, and State of New Hampshire, of lawful age, being duly sworn, says I am a musical instrument manufacturer, and have been employed in the manufacture of such instruments for more than twenty years, and am well acquainted with the construction and operation of reed musical instruments, melodeons, seraphines, reed organs, and other similar instruments. At the request of Mr. Charles Austin, of Concord, aforesaid, I have, this 27th day of August, A. D. 1863, examined a melodeon or seraphine, as the same is sometimes called, marked "R.H.E, August 25, 1863," on that part of the reed-board through which the pins pass to the valves.

In my opinion the said instrument contains substantially, in principle and operation, the three several improvements specified and claimed in the patent of Jeremiah Carhart as reissued August 18th, 1857. This instrument is at said Austin's shop in Concord aforesaid.

JOSEPH W. PRESCOTT.

STATE OF NEW HAMPSHIRE, *Merrimac county, ss:*

On this 27th day of August, A. D. 1863, before me, personally appeared the abovenamed Joseph W. Prescott, and made oath that the foregoing statements, made and signed by him, are true to the best of his knowledge and belief.

ARTHUR FLETCHER, *Justice of the Peace.*

129 *Deposition of Matilda French.*

I, Matilda French, of Boston, in the county of Suffolk, and Commonwealth of Massachusetts, depose and say as follows, in answer to interrogatories proposed to me:

Int. 1. By A. Fletcher. esq., counsel for def't: What is your name, where do you reside, and are you the widow of George L. French, late of Lowell, deceased?

Ans. My name is Matilda French; I reside in Boston, Ms.; I am the widow of George L. French, late ef Lowell, deceased.

Int. 2. When were you married to him, and when did he decease?

Ans. I was married to him in 1830, I believe. He died in 1857.

Int. 3. State whether he purchased of Mr. Charles Austin, of Concord, a melodeon or seraphine; and if so, when?

Ans. He did. As near as I can recollect it was about the year 1839.

Int. 4. State whether the instrument here present, identified by the mark "R.H.E, Aug. 25, 1863," on the reed-board, is the same instrument?

Ans. It is.

Int. 5. In whose possession did that instrument remain from the time it was purchased till your husband's death, and in whose possession has it been since?

Ans. It remained in my husband's possession till his death. It has since been in my possession till August last; since then it has been in Mr. Austin's possession.

Int. 6. State whether your husband made any alteration in the instrument, and when, that is, how long after he purchased it.

Ans. He did, in the course of six months after he purchased it.

Int. 7. Can you describe the alterations which he made?

Ans. He made an alteration in the bellows, from a blow bellows to a suction bellows. He put in a swell in front over the reeds or in front of it. I don't know as I can define it as you would. He placed cells over the reeds; he put in a new harp and pedal—the old one got broke. I don't think of any other alteration.

130 Int. 8. With these exceptions is it the same instrument that he bought, or has it been altered in any other way, except as altered by him within the first six months?

Ans. It is the same. It has not been altered in any other way.

Int. 9. Have you had such possession and knowledge of the instrument that you must have known if any change had been made at any other time?

(Question objected to, and waived.)

Cross-examination by Causten Browne, esq., counsel for complainant:

Cross-int. 10. Did you in August last make an affidavit in this case, at the request of the def't, Mr. Austin?

Ans. Yes.

Cross-int. 11. Will you look at the paper now shown you, and identified by the commissioner's initials, and marked "A," and say if that is a copy of such affidavit?

Ans. It is.

Cross-int. 12. You say he altered the instrument so as to make it a suction bellows; can you describe what he did for that purpose, what mechanical changes he made?

Ans. I don't know that I could tell you in particular. I know that he altered it. I paid but little attention to it myself.

Cross-int. 13. Can you tell any one of the changes he made in it for the purpose of making it a suction bellows?

Ans. I know he altered the top of the bellows; took off a strip and done something to it; but I am not a mechanic myself, and I don't know that I could define it. I know that he altered it from a blow bellows to a suction.

Cross-int. 14. Did Mr. French ever do any work about that instrument afterwards?

Ans. He put in the new harp underneath, and the pedal.

Cross-int. 15. Did he occasionally, besides doing that, have the instrument open, working upon it, or experimenting with it?

Ans. No.

Cross-int. 16. How do you know he didn't?

Ans. Because I never saw him.

131 Cross-int. 17. Can you state any fact that enables you to swear that these alterations were made in the course of six months after the instrument came to the house?

Ans. Why, I know it was done in the course of five or six months after it came into the house. I know that I was very loth for him to meddle with it, for fear he would spoil it.

Cross-int. 18. Can you state any reason why it might not have been nine or twelve months after the instrument came into the house?

Ans. Well, I know from my children, their ages; they were small. I know it was done before my daughter was able to play on it much. It was before I moved to a certain place.

Cross-int. 19. What place was that?

Ans. I moved from Lawrence st. to Merrimack st.

Cross-int. 20. And when was that?

Ans. It was some time in the year 1840. I don't recollect the date of that any more exactly than I do that of the seraphine.

Cross-int. 21. Can you testify, within six months, how long it was before you moved away from Lawrence street that the seraphine was altered?

Ans. I don't know that I could.

Cross-int. 22. Were the houses in Lawrence and in Merrimac streets hired? and if so, who were the landlords?

Ans. They were. Mr. Brown was the landlord of the house in Lawrence st.; I don't know his given name. I don't know who was the landlord of the other house.

Cross-int. 23. How long did you live in Merrimack st.?

Ans. I couldn't tell that.

Cross-int. 24. Are you positive that it was in the year 1840 at all, and not in the year 1841, that you moved to Merrimack st.

Ans. Yes, I know it wasn't as late as 1841.

Cross-int. 25. How do you know?

Ans. Because I moved before that; I know I moved before '41.

Cross-int. 26. How do you know it?

Ans. Because I didn't live there long enough for it to be so long.

Cross-int. 27. When did you go to live in Lawrence st.?

Ans. It must have been in 1837 or 1838?

132 Cross-int. 28. When was your son George born?

Ans. He is now 31 years of age.

Cross-int. 29. What was your husband's business in 1839 and 840?

Ans. He was a house and sign painter.

Cross-int. 30. Had that always been his business?

Ans. No, he used to work in a furniture shop.

Direct examination resumed:

Int. 31. Will you look at the bill of sale produced, and identified by the mark "B," "W. L. F., com'r," and say whether it is the same your husband received when he purchased said instrument?

(Objected to by counsel for plaintiff.)

Ans. I should say it was.

Int. 32. How early do you remember to have seen it? and state where it was found.

Ans. Soon after my husband had the seraphine; it was found in my son's possession among my husband's papers.

Int. 33. Was this the first seraphine your husband had owned during your marriage?

Ans. It was.

Cross-examination resumed:

Cross-int. 34. (De bene esse.) When you gave your affidavit last Aug., did you remember the existence of this bill of sale?

Ans. I didn't think anything about it at the time; I knew there was one given, but I didn't know whether it was in existence.

MATILDA FRENCH.

Subscribed and sworn to before me, January 26th, 1864.

W. L. FOSTER, *Com'r.*

133 *Exhibit A, W. L. F., com'r.—Copy of paper referred to in testimony of Matilda French, X* 11.

U. S. circuit court, district of New Hampshire; in equity.

JEREMIAH CARHART and *als.*
vs.
CHARLES AUSTIN.

Matilda French, of Boston, in the county of Suffolk, and Commonwealth of Massachusetts, of lawful age, on oath deposes and says:

I am the widow of George L. French, late of Lowell, in the county of Middlesex, and Commonwealth aforesaid, deceased. In the year eighteen hundred and thirty-nine my late husband purchased a musi-

cal instrument then called a "seraphine," on which was the name of "Charles Austin, manufacturer, Concord, N. H.," which instrument has ever since remained in the possession and control of my late husband, so long as he lived, and since his death in my own possession and control up to last Tuesday.

In the year 1840, and within a few months after my late husband purchased said instrument, being a very skilful mechanic, and accustomed to manufacturing and repairing musical instruments of various sorts, he altered this seraphine so as to make a suction out of what was before a blow bellows, and at the same time he added a swell to the instrument, and also cells over the reeds.

I further say that no alterations have been made in said instrument since 1840, except this: the old pedal was broken and a new harp and pedal substituted therefor. With this exception the instrument now remains in all respects the same it was then. My husband, so long as he lived, had the care of the instrument, and used to keep it in order. After his death, which occurred in September, 1857, the instrument got out of tune, and I got said Austin to tune
134 it. My recollection is that I wrote to Mr. Austin to call when he passed through Lowell and put the instrument in tune, and that this was some time within a year after my husband's decease. I think he also tuned the instrument once since the first time of tuning it after the death of my husband.

I further state that Mr. Charles Austin is personally known to me; that I always understood, both from my late husband and from Mr. Austin himself, that the said Austin was the manufacturer of said instrument. Said instrument has never been taken from my house, or the houses I have occupied, since 1840, until the 25th day of August current, 1863, when I allowed Mr. Austin to take it to Concord, and no alterations could have been made without my knowledge.

(Signed) MATILDA FRENCH.

STATE OF NEW HAMPSHIRE, *County of Merrimac, ss:*

AUGUST 28, 1863.

Then personally appeared the above-named Matilda French, and made oath that the foregoing statements, made and signed by her, are true to the best of her knowledge and belief.

ARTHUR FLETCHER,
Justice of the Peace.

Deposition of George W. French.

I, George W. French, of Lowell, in the county of Middlesex, and Commonwealth of Massachusetts, depose and say as follows, in answer to the following interrogatories:

Int. 1, by A. Fletcher, esq., counsel for defendant. What is your name, age, and place of residence, and who were your parents?

Ans. My name is George W. French; aged 31 years, yesterday; I reside in Lowell, Mass. My parents were George L. and Matilda French.

135 Int. 2. State, if you remember, of your father's purchasing a melodeon or seraphine, and when it was, and whether the instrument present and marked "B.H.E" is that instrument.

Ans. I do. I should judge it was in 1839. This is the same instrument.

Int. 3. State whether it is now in the same condition as when it was first brought home, and if not, how has it been altered, by whom, and when?

Ans. It is not. All that I can testify particularly with regard to an alteration is the bellows. When it was purchased the whole top used to rise up, and now only the back edge or outer edge rises up, the other being fastened. There was then a strip ran across the top from one end to the other, with a knob or pin in the centre, so that when the bellows was inflated it used to let the air escape. There was a new harp and pedal put on. That is all the alteration that I remember. My father made these alterations within six months, I should judge, after the instrument was purchased. The harp and pedal were altered afterwards; I don't know when.

Int. 4. Do you know whether any change was made in the valve on the top of the bellows? and if any, describe it.

Ans. I do. There was one hole. He made two more and put a piece of leather on top.

Int. 5. Does that leather operate as a valve? And which way does it play when the bellows is inflated?

Ans. I think it does. It plays up when the bellows is inflated.

Int. 6. Describe the valve in the instrument originally, and which way did that play when the bellows was inflated?

Ans. It had one hole in the centre with a piece of leather on the under side. It played down when the bellows was inflated.

Int. 7. State any circumstance that enables you to remember this?

Ans. The instrument was open, and when people were playing I used to put my finger in the valve and let the wind out.

Int. 8. State whether this is the first melodeon or seraphine that you had ever had any acquaintance with, or that you had ever had in the house.

Ans. It was the first one.

136 Int. 9. State whether you learned to play on the instrument and when you commenced.

Ans. I did. I began when I was about fourteen years of age.

Int. 10. State whether the cells over the reeds and the swell in front were there then as now.

Ans. They were the same as they are now.

Int. 11. How do you remember this?

Ans. By taking off the board and brushing off the dust that had collected in the cells.

Int. 12. State where and when you found the bill of sale produced from Charles Austin to Goorge L. French, marked "'B,' W. L. F., commissioner."

(The counsel for plaintiff renews his objection to the production of said bill of sale in evidence.)

Ans. I found it the latter part of October or the first of November, 1863, I think, among some papers and books that belonged to my father. The bill of sale is as follows:

Mr. George L. French to Charles Austin, Dr.

1838, Dec. 15.	To one 5-octave plain mahogany seraphine, warranted one year	$70 00
	Cr. By cash, (40 00)	40 00
	Balance due	30 00

Cross-examination by Causten Browne, esq., counsel for plaintiff:

Cross-int. 13. How old were you when you remember the alterations in the seraphine being made?

Ans. Between seven and eight.

Cross-int. 14. Being of that age at the time, are you prepared to swear to-day to its being less than twelve months after the arrival of the seraphine in the house that the alterations were made?

Ans. I think I am.

137 Cross-int. 15. Will you state anything that enables to swear to-day that that interval was not as much as twelve months?

Ans. Hard words between father and mother with regard to his altering it; likewise being whipped a number of times for putting my fingers into the valve.

Cross-int. 16. When you say you were between seven and eight years old, do you mean you were in your eighth year?

Ans. Yes, sir.

Cross-int. 17. The circumstances referred to in your answer to the 3d cross-int. (int. 15) may have fixed in your mind the fact that the seraphine was altered as you have testified. How do they enable you to swear to-day that this alteration was made less than twelve months after the seraphine came into the house?

Ans. Because it was the first time I had ever heard any hard words between them, and it made an impression upon my mind I shall never forget.

Cross-int. 18. Is that the only reason why these circumstances enable you to swear to the length of the interval inquired of?

Ans. I think it is, with the exception of the whipping I got, which I didn't get after the seraphine was altered.

Cross-int. 19. Did you give an affidavit in this case in August last at the request of Mr. Austin, the def't?

Ans. I did.

Cross-int. 20. Please examine the paper now shown you, and marked "C, W. L. F., com'r," and say if it is a copy of that affidavit.

Ans. I should say it was.

Cross int. 21. In that affidavit you say, "I well remember that in the latter part of the year 1839, I think in the month of December of that year, my father bought," &c., and "that during the next spring and summer, *i. e.*, 1840, my father took the instrument to pieces

and made some alterations in it." You were thirty-one years old yesterday, the 19th of January, 1864. How old were you twenty-four years ago, that is to say, the 19th of January, 1840?

Ans. I should say I was seven years old.

Int. 22. You were in your eighth year, then, in the spring and summer of 1840?

Ans. I was.

138 Cross-int. 23. Were you going to school?

Ans. I was.

Cross-int. 24. To whom?

Ans. To the primary school in Lowell.

Cross-int. 25. At what age did you go to school?

Ans. I should say five.

Direct examination resumed:

Int. 26. Is it possible, comparing the date of said bill of sale with your first recollections, as to the time of the purchase of the instrument, that you are mistaken one year? and may not the instrument have been purchased agreeably to said bill of sale?

Ans. According to the bill of sale, I should say it might be so.

Int. 27. How soon after it was brought home, whenever that was, did your father commence altering it, according to your best recollection?

(Objected to by counsel for plf.)

Ans. I should say within two or three months.

Int. 28. During how long period did you get punished for depressing the valve?

Ans. Eight or ten weeks, I guess two or three months.

GEO. W. FRENCH.

JANUARY 26TH, 1864.

Subscribed and sworn to before me.

W. L. FOSTER, *Com'r.*

139 *Exhibit C, W. L. F, com'r.—Copy of paper referred to in testimony of Geo. W. French, X 20.*

U. S. circuit court, district of New Hampshire, in equity.

JEREMIAH CARHART and *al.*
vs.
CHARLES AUSTIN.

George W. French, of Lowell, Massachusetts, of lawful age, being duly sworn, says:

I am the son of George L. French, late of Lowell aforesaid, deceased, and of Matilda French, now of Boston, in said State.

I well remember that, in the latter part of the year 1839, I think in the month of December of that year, my father bought of Mr. Charles Austin, of Concord, New Hampshire, a musical instrument called a "seraphine," and that during the next spring and summer, *i. e.*, 1840, my father took the instrument to pieces and made some alterations in it. I was between seven and eight years old only at

that time, and cannot describe, particularly, the alterations made, further than this: the instrument when first brought home was so constructed that the top bellows, or rather the lid or upper board thereof, rose up nearly to the cover of the instrument, whenever the same was inflated, and many times I amused myself by putting my finger on the clapper or valve and depressing the same so as to let the air escape, and thereby annoy and embarrass the person playing. My memory is quite distinct as to this, and the more so because my mother trounced me many times for indulging in this mischievous propensity. I remember also that at first there was strips of board extending the whole length of the instrument inside, near the cover, on the under side of which was a knob or pin which fitted into the hole in the top of the bellows, and depressed the whenever the bellows was fully inflated. My father so altered the bellows
140 at the time above mentioned that only the outer or back edge or side of the top bellows has played up and down when the instrument was played, the other side, nearest the reed-board, being held down by a leather hinge extending the whole length.

The valve or clapper above spoken of was removed, and instead thereof a strip of leather was placed above the original valve-hole and two other holes near the same made by my father, which leather answers the purpose of a valve—this playing up, and the original one playing down, when open. The long board near the cover, was wholly removed.

He made other alterations in the instrument, as I understood, but I was too young to understand the nature of them, and would not undertake to describe them; but these alterations were all made as early as the summer of 1840, since which time the instrument has not been altered.

When about fourteen years old I began to play the instrument, and then and subsequently was in the habit of taking off the board forming the top of the cells, to which the partitions are attached, and of clearing out any dust or motes that obstructed the action of the reeds. The board over the cells, and the partitions thereof, have not been altered, but remain the same as they were sixteen years ago, and I know not how much longer. The only alteration or change that has been made since 1840, so far as I know and believe, is this: a new harp and pedal have been substituted for the old one, which I understood had been broken.

(Signed) GEO. W. FRENCH.

AUG. 27, 1863.

STATE OF NEW HAMPSHIRE, *Merrimack, ss:*

Subscribed and sworn to before me—

ARTHUR FLETCHER,
Justice of the Peace.

141 *Deposition of John F. Carney.*

I, John F. Carney, of Lawrence, in the county of Essex, and Commonwealth of Massachusetts, depose and say as follows, in answer to the following interrogatories—

By A. Fletcher, esq., counsel for defendant :

Int. 1. State your age, occupation, and place of residence.

Ans. My age is forty-seven; I am a musician, and reside at Lawrence, Mass.

Int. 2. Were you acquainted with the late George L. French, of Lowell?

Ans. I was.

Int. 3. Did you have occasion to examine a melodeon or seraphine owned by said French, and when was it?

Ans. I did. I think it was in spring of 1839.

Int. 4. Will you examine the instrument here present, and say whether it is the same instrument, and in the same condition, as when you first saw it. (It is marked "R.H.E, Aug. 25, 1863.")

Ans. I have examined the same, and should think it was the same instrument, and in the same condition.

Int. 5. Wherein did said instrument differ from other seraphines or melodeons? and did the said French call your attention to any change or improvement in it which he claimed to have made?

Ans. It was in the bellows, one thing. I had never seen a bellows like that before—to act like that. Another difference was in the reeds. He had them partitioned off, each reed by itself; and in the way the air put the reeds in motion. It sucked on to the reed on the outside, instead of blowing through it. It had a clapper or swell, by which he could increase the tone, and make it louder or softer at will. I don't recollect now of anything else that he called my attention to.

Int. 6. Were there or not separate cells over each of the reeds? And if yea, how were they formed?

Ans. There were separate cells over each of the reeds. There was merely a slip of brass put in a groove made by a saw, I should think, at equal distances, and put on right over the reeds.

142 (The witness having examined the piece containing the cells marked "Carney" says :) This is what I meant to describe.

Int. 7. State whether or not the said piece with the clapper or valve attached, when in place, forms a chamber over the reeds.

Ans. It does.

Int. 8. State whether these alterations in the instrument had, or not, in your judgment, altered the tone of the instrument, or whether the tone of it was different from, and better than, any other instrument of the kind you had ever seen.

Ans. I think these alterations had altered the tone of the instrument. I think the tone of it was better than any other instrument of the kind I had ever seen.

Int. 9. Describe the difference in the tone, as well as you may be able?

Ans. Well, the tone of any reed, produced by the wind being forced upon it, is coarse, naturally, and rough, and the reverse, suction, makes it more mellow and smooth.

Int. 10. State whether the reed-board forms the upper part or

cover of an air-chamber which is directly over the bellows, and communicates therewith without the intervention of tubes.

Ans. It does.

Int. 11. Do you know how French came to make these alterations?

Ans. I think the accordeon was what first suggested the alterations to him.

Int. 12. State whether you are an instructor in music and how long you have made the instruction and practice of music your entire occupation; and with what musical instruments are you familiarly acquainted?

Ans. I am an instructor in music; I have made the instruction and practice of music my entire occupation for twenty-three years; I play the piano, violin, harp, and organ, and am acquainted, more or less, with all instruments in common use.

143 Cross-examination by counsel for complainant, Causten Browne, esq.:

Cross-int. 13. In what part of Lowell did Mr. French reside in 1839, and in what part did you reside?

Ans. Mr. French resided, I believe, on Lawrence street. I resided on South street.

Cross-int. 14. Were you and he old acquaintances at this time?

Ans. I had known him perhaps two years, more or less.

Cross-int. 15. Were you frequently at his house about this time?

Ans. No, sir, not very frequently.

Cross-int. 16. State, if you please, about how many times you saw him at his house in the years 1839, 1840, and 1841.

Ans. Well, I don't know that I could. Three or four times in the course of those years. I think as many as that certainly.

Cross-int. 17. How many more times do you think?

Ans. Well, I have told you about how many I thought.

Cross-int. 18. You said as many as three or four certainly. Will you please state whether it may have been as many as a dozen times during those years that you saw Mr. French at his house?

Ans. I think not.

Cross-int. 19. As many as half a dozen?

Ans. It might be in those three years, but I don't pretend to say I was there half a dozen times.

Cross-int. 20. Do you remember what was the occasion of your going to his house the time you saw the meledeon or seraphine, as you have testified?

Ans. Yes, sir; by invitation from him to examine it.

Cross-int. 21. What was your occupation at that time?

Ans. Well, it was mostly music at that time. I worked sometimes, and played music, before I began teaching. My work at that time was in a cotton factory, when I did work.

Cross-int. 22. At that time were you familiar with the internal construction of the common form of melodeons or seraphines?

Ans. Yes, sir; with the principles they were built on.

Cross-int. 23. Was anybody present besides yourself and Mr. French when he showed you the instrument?

144 Ans. I think his little girl, who was learning to play at that time, was present.

Cross-int. 24. How old a child was she, apparently?

Ans. Perhaps nine or ten years old.

Cross-int. 25. Do you know if she is living, and where?

Ans. I do not.

Cross-int. 26. Setting aside everything Mr. French may have said to you, please state how you judged that that instrument vibrated the reeds by the suction of the air over them; was it from the superior quality of the tone?

Ans. He showed me how it was. It was the first I had ever seen of the kind.

Cross-int. 27. Please state what he showed you; omitting if you please, what he said.

Ans. He showed me what he had done with the chambers or cells; how he had fixed those, and altered the reeds; I believe that is all. He had altered the bellows.

Cross-int. 28. When did you first see the instrument which is produced here, after seeing it on that occasion?

Ans. Well, I cannot tell you, so many years ago as that is, how long it was from first to second.

Cross-int. 29. Did you ever examine it more than once; I mean in regard to those features of its construction which you have testified about?

Ans. Yes, sir; I have examined it here to-day. I don't know that I ever examined it from that time till to-day. I didn't take much interest in it any way; he only called my attention to it, I being a musician.

Cross-int. 30. Are you able to say, from your knowledge of instruments of this class, what changes in the instrument here produced would convert it into a blow-bellows instrument? if so, please describe how you would do it.

Ans. I am not an instrument maker, and don't know that I could give you a proper method to pursue to do it.

Cross-int. 31. Where did you see this instrument to-day?

Ans. In this office.

145 Cross-int. 32. Did you ever see it at Mr. Austin's house?

Ans. Yes, sir.

Cross-int. 33. When was that?

Ans. Yesterday.

Cross-int. 34. Was that the first time you had seen it to examine it since it was in Mr. French's house at Lowell?

Ans. I didn't examine it at all at Mr. Austin's. I just saw the instrument. I had not before seen it since I saw it at Mr. French's house in Lowell.

Cross-int. 35. How long did you reside in Lowell, from what year to what year?

Ans. From 1835 to 1857.

Cross-int. 36. Did you see Mr. French at his house, from time to time, from 1837 to 1857?

Ans. No, sir.

Cross-int. 37. You say you saw him there, perhaps half a dozen times, during the years 1839, 1840 and 1841. Did you continue to see him, with the same frequency, during the three following years?

Ans. I couldn't say whether I did, the one way or the other; I never was very intimate with him.

Cross-int. 38. Did Mr. French reside in the same house from 1839 to the time of his death?

Ans. I do not know.

Cross-int. 39. Did you make any record or written memorandum of your seeing this instrument at his house, at or about the time you saw it?

Ans. No, sir.

Cross-int. 40. Will you state any fact within your own knowledge which enables you to be positive that it was in 1839, and not in 1840, that you so saw it?

Ans. One instance, in 1838; I was travelling with an exhibition, and it was the latter part of 1838 that I got back to Lowell, and it was the spring after.

Cross-int. 41. Any other reason?

Ans. I don't think of any other.

146 Cross-int. 42. What sort of an exhibition was it?

Ans. A circus.

Cross-int. 43. In what capacity did you go with it?

Ans. As a musician.

Cross int. 44. Will you state why you know that you saw the melodeon at Mr. French's house the spring after you got back?

Ans. Why I think I know is, because all the rest of that winter and spring following I was out of business, doing nothing, and used to meet him once in a while.

Cross-int. 45. How were you engaged in the winter and spring a year later?

Ans. I was engaged at the Lowell Museum, as a musician.

Int. 46. Is that a permanent place of entertainment? Is it there still? If not, when was it broken up?

Ans. It is not. It burnt down twice. The last time, I think, was about seven years ago.

Int. 47. Who was the proprietor in the winter and spring of 1840?

Ans. Moses Kimball, of Boston.

Cross-int. 48. Please name one or more persons who were employed there at that time, whom you knew well, and who are now living.

Ans. One is the treasurer and principal business man, Mr. Wright; I don't remember his given name; Mr. Kimball was there a good deal of the time.

Cross-int. 49. What members of your family living then, are living now, and where?

Ans. I was not married then. I have one brother, Thomas Carney, in Kansas. I have two sisters in Lawrence, Mass., Helen Brown and Rosanna Carney. Mr. Brown's name is Dexter.

Cross-int. 50. Have you sufficient knowledge of the construction of melodeons or seraphines to state the mechanical changes neces-

sary to convert a blow-bellows instrument into a suction-bellows instrument, or vice versa? and if you have, please say how long you have had such knowledge, and how you acquired it.

Ans. All that I know about it is, that the reed has got to be changed from the thing it is fastened on to that the air passes
147 through, and the bellows has got to be reversed, to draw the wind through, instead of driving it through. I have had this knowledge for a number of years. That instrument was the first that gave me any idea of it.

JOHN F. CARNEY.

Subscribed and sworn to on this 20th day of January, A. D. 1864, before me.

WM. L. FOSTER, *U. S. Commissioner.*

Deposition of Miriam C. Fowle.

Miriam C. Fowle, a witness produced by the respondents, being duly sworn, doth depose and say, in answer to interrogatories proposed to her by Arthur Fletcher, esq., counsel for respondent, as follows, viz:

Int. 1. What is your name, age, and residence?

Ans. My name is Miriam C. Fowle; my age, 68; my residence, East Boston.

Int. 2. Please state whether you are acquainted with the melodeon here produced, identified by the name "'Fowle,' N. A. P., ex'r?" If so, state how long you have known the same.

(Objected to, it not appearing that said instrument relates to, or was the subject of any prior use of which notice has been given in the answer to the bill of complaint.)

Ans. I am acquainted with it, and have known it for forty-six years.

Int. 3. How long has said instrument been in your possession?

(Objected to as above.)

Ans. For forty-three years it has been in my own place of residence.

Int. 4. Has it been out of your possession any part of said forty-three years? and if so, when and for how long a time?

(Objected to as above.)

148 Ans. It has, for about three months; it was then in the possession of a young man whom we knew so well, that we knew it could not have been changed; this must have been thirty years ago, I think—all of that, but I couldn't say with certainty.

Int. 5. Has the instrument undergone any alterations, other than tuning, within the last forty-six years?

Ans. No.

Int. 6. Do you know who made the instrument, and how did it come into your possession?

Ans. I do not know who made it; I know nothing of it but that it was drawn in a lottery.

Int. 7. State, if you please, the name of the young man who had the instrument for about three months.

Ans. Charles Fletcher.

Int. 8. Do you know his present residence?

Ans. I do not.

MIRIAM C. FOWLE.

Cross-examination waived, with the privilege of resuming at a future day, on notice.

Boston, Feb. 4th, 1864, before N. Austin Parks, examiner.

149 *Deposition of Samuel L. Fowle.*

Samuel L. Fowle, a witness produced by respondent, being duly sworn, doth depose and say, in answer to interrogatories propounded to him by Arthur Fletcher, esq., counsel for respondent, as follows, to wit:

Int. 1. What is your name, age, residence, and occupation?

Ans. Samuel L. Fowle; about thirty-eight years of age; residence, East Boston; occupation, truckman.

Int. 2. State whether you are acquainted with the melodeon here produced, identified by the name "Fowle, N. A. P., ex'r;" and if so, how long have you known the same?

(Objected to, it not appearing that the said instrument relates to or was the object of any prior use, of which notice has been given in answer to the bill of complaint.)

Ans. I am acquainted with the instrument, and have known it almost as long as I have any recollection; about thirty years and upwards.

Int. 3. How long has the said instrument been in the same house where you have lived?

Ans. It has been in my father's house nearly all the time; I've been back and forth there nearly every day.

Int. 4. Has said instrument been altered in any way, other than tuning, since you first knew it?

Ans. It never has to my knowledge.

Int. 5. So far as you know said instrument, have you any doubt that it is the same construction as when you first knew it?

(Objected to.)

Ans. I have not the least doubt.

SAM'L L. FOWLE.

Cross-examination waived, with the privilege of resuming at a future day, on notice.

Boston, February 4, 1864, before N. Austin Parks, examiner.

150 *Deposition of Charles Austin.*

Charles Austin, defendant in the abovenamed suit, deposes and says, in answer to direct interrogatories proposed to him by Arthur Fletcher, esq., counsel for defendant, as follows, to wit:

(Testimony of defendant objected to.)

Int. 1. What is your name, age, residence, and occupation?

Ans. Charles Austin; fifty years of age; reside in Concord, N. H.; am a manufacturer of reed musical instruments.

Int. 2. How long have you pursued that business as an occupation?

Ans. About thirty years.

Int. 3. State whether or not you are a musician, and upon what instruments, and how long have you played.

Ans. I suppose I am a musician upon violin, bass viol, clarionet, pianoforte, melodeon, and harmonium. I have played some forty years.

Int. 4. State whether at any time you ever sold a seraphine to the late George L. French, of Lowell, Mass.? If so, when?

Ans. I sold him a seraphine December 15, 1838.

Int. 5. What sort of an instrument was that when you sold it?

Ans. It was called a seraphine; it had a blow bellows.

Int. 6. State whether that instrument is here now, and state whether it has been changed; and if so, in what way.

Ans. The instrument is here now, and has been changed from a blow to a suction bellows; the reeds have been voiced above the plate to which they are fastened; the upper bellows was formerly the pressure or blow bellows, and had a valve on the under side; a strip of board run from one end of the instrument to the other, with a pin in the middle of it, which opened the valve so that it would escape when it was full. This bellows was afterwards hinged on the front edge; the back edge was made to rise and fall; there were two holes made on top, one on each side of the original hole, and a valve put on top of those holes; the valves in the under bellows were taken from the inside and put on the outside—I would say the valve in the partition between the two bellows.

151 The valves that were in the under bellows were glued down tight so the air could not escape. What I mean by the change of the valve in the middle board is that it was taken from the under side and put upon the top side, making an exhaust bellows.

There is a board with grooves cut in it; strips of brass put in the grooves, which form a cell over each reed when in place. There is also a swell or concentrating chamber over the reeds.

Int. 7. Is this the same instrument about which Mrs. Matilda French and George W. French, and John Carney, have heretofore testified in this cause?

Ans. It is.

Int. 8. State whether you are acquainted with the complainant Carhart's patent, for the alleged infringement of which this suit is brought; and how long have you been acquainted with it?

Ans. I am. I think I first saw it in 1847, or about that time. It might have been a year later.

Int. 9. State whether the French seraphine above mentioned contains either, and which, if either, of the several improvements claimed by said Carhart as his invention in his last reissue, upon which this complaint is founded.

(Objected to.)

Ans. It contains all the improvements which he claims.

Int. 10. State whether you gave a bill of sale of the instrument originally to said French, and when; and please annex the same.

Ans. I gave him a bill of sale of it Dec. 15, 1838. I will annex the same.

Int. 11. Have you that bill of sale now? and when, and under what circumstances, did you get possession of it?

Ans. This is the bill of sale I hold in my hand. I got possession of it last September or October, I think. After the affidavits of Mrs. French and George W. French were taken, I inquired after more evidence in the case of all the musicians I could hear of that were at Lowell at the time the instrument was altered. I found Mr. Carney. In consequence of what he said to me I thought I would make further inquiry for the bill of sale, knowing I gave one.

152 I inquired of Mrs. French to know if the bill was not in existence. She told me that her husband's papers, she believed, were in the hands of her son. I requested her son to make search for it. We both searched the papers over and found it, and he gave it to me. It is the same bill of sale which is copied in the deposition of George W. French, and is in my handwriting. I had not seen it from the time I gave it until we found it among his father's papers.

Int. 12. Do you thoroughly understand the principles involved in, and mode of construction of, melodeons and other similar reed musical instruments?

(Objected to.)

Ans. I do.

Int. 13. Examine the Patent Office model marked, "W. L. F., com'r, model," the instrument marked "Fowle, N. A. P., ex'r," "Fowle No. 2, W. L. F, com'r," and "Austin, W. L. F., com'r," respectively, and state what you regard as the principle involved in each of them.

(Objected to.)

Ans. It is the suction bellows, drawing the air down through the instrument of each, causing the reed to vibrate, when voiced, to the upper side of the plate to which they are fastened.

Int. 14. What difference, if any, is there in the principle or mode of operation of the bellows in said model and the three other instruments?

(Objected to.)

Ans. There is no difference.

Int. 15. State whether the effect would be changed in either or all of them if they were hinged on the sides or ends, each differently from what it is.

(Objected to.)

Ans. It would not.

Int. 16. Will you state how the bellows in the instrument marked "Fowle No. 2," and in the instrument marked "Austin," compare with each other in point of size, and the force or pressure of the springs in each?

Ans. I believe they are very nearly of the same size. There may be a very little difference in the size of the pumping bellows,
153 but not enough to affect the instrument. In the Fowle instrument, No. 2, the pumping bellows is two feet seven inches long, and nine and one-quarter inches wide. In the Austin instrument, it is two feet eight and one-quarter inches long, and eight and seven-eighths inches wide. The depth is the same in each. The springs in each are of the same pressure as near as they can be made.

Int. 17. State whether you have ever been licensed by said Carhart, and when, and for how long a time, to use his patent improvement in melodeons?

Ans. I had a license from him while I was in company with D. M. Dearborn, of Concord. It was given, I think, in 1847 or 1848. No time was specified. We paid so much for each one we made. We used it, I think, about two years, as near as I can recollect. It might be longer. [We then refused to pay any longer, for the reason that others were using it freely and without a license.]

(Part in brackets objected to as irresponsive.)

I had another license in 1856 or 1857, to the expiration of the original term of the patent.

Int. 18. State whether, according to your best recollection and belief, the instruments that you manufactured under Carhart's patent were superior to, or had any advantage over, the instruments marked "Fowle No. 2, W. L. F., com'r," in the quality and quantity of tone, and in the quickness of speaking of the reeds.

Ans. I think not.

Int. 19. Will you explain what you mean by voicing the reeds?

Ans. It is setting the tongues of them at a proper distance above or below the plate to which they are confined; and also bending them at the point, or twisting them, so that they will give a desirable tone.

Int. 20. What are the mechanical devices or means by which the principle of said model, and of the two instruments marked Fowle, and the one marked Austin, are carried out?

(Objected to.)

Ans. An exhaust-chamber placed immediately under the reeds, in which a partial vacuum is maintained by means of an exhausting chamber or bellows, so as to draw the air over the reeds by suction.

154 Cross-examination by Causten Brown, esq., counsel for the complainant:

Cross-int. 21. You knew Mr. George L. French at one time well, did you not?

(Question objected to because it asserts the fact, and asks the witness to affirm the fact or matter.)

Ans. I knew him, but was not very intimately acquainted with him.

Cross-int. 22. Did you at one time have talk with him upon the subject of employing him?

Ans. I think I did. I can't say positively.

Cross-int. 23. Can you say when it was that you so talked with him?

Ans. I cannot. I think, however, it was some time after he purchased the seraphine.

Cross-int. 24. How long after do you think it was? State as nearly as you can.

Ans. It must have been very soon after he bought the seraphine.

Cross-int. 25. Do you remember a visit made by Mr. Swartz, of Carhart, Needham & Co., and Mr. Augustus Rice, to you at Concord, on the 14th Sept., 1863, the subject of which interview was the pending suit between Carhart, Needham and yourself?

Ans. I recollect that they came to my shop some time in September, 1863.

Cross-int. 26. Do you remember what you said to them in that conversation, if anything, upon the subject of pecuniary assistance which you were to have, or expected to have, in carrying on this defence?

Ans. I am advised by my counsel to answer no question of that character, as being immaterial and irrelevant to the case.

Cross-int. 27. Did you tell them in that conversation that it was not going to cost you a cent to carry on this suit; that there were melodeon makers that wanted to break down this patent, and were ready to back you for all you wanted; that one had told you to draw on him for $1,000 at any time, or anything to that effect?

Ans. I decline to answer for the same reasons.

Cross-int. 28. If you did make any such statement to them, was it true, or any part thereof? If so, what part?

Ans. I decline to answer for the same reasons.

155 Cross-int. 29. Has any melodeon manufacturer assisted you, or agreed to assist you, directly or indirectly, in the expense of defending this case? If so, what is his name?

Ans. I decline to answer for the same reasons.

Cross-int. 30. Is this defence really conducted at your expense at all. If not, at whose expense?

Ans. I decline to answer for the same reasons.

Cross-int. 31. Have you in your possession the original of any license to yourself, or yourself and Dearborn, under the original term of the Carhart patent?

Ans. I have not been able to find the original, but I have a copy myself. I have not the other.

Cross-int. 32. Do you know what has become of the other?

Ans. I do not. I don't know that there was another.

Cross-int. 33. Will you produce the copy which you have?

Ans. I will, and do produce it. It is a copy belonging to Mr. Fletcher, my counsel, which was served either on him or me by the complainants in the progress of this cause. I cannot say that it is an exact copy, but should think it was the same.

(The parties agree that a copy of the paper produced shall be annexed to this deposition.)

Cross-int. 34. Do you remember a visit you made in November, 1862, to the factory of Carhart, Needham & Co., in East Twenty-third street, New York, at which the subject of your becoming licensee under the extended term of the Carhart patent was discussed?

Ans. I do not in 1862. I recollect a conversation in regard to it. It was in 1862. I recollect now because I had a son in New York in 1862.

Cross-int. 35. Was such conversation held with Mr. Needham and Mr. Swartz, partners of Mr. Carhart?

Ans. The conversation was held with Mr. Needham. I don't recollect anything that was said between Mr. Swartz and myself; still there might have been.

Cross-int. 36. Was Mr. Swartz present?

Ans. I think he was in the counting-room adjoining the room we were in.

156 Cross-int. 37. In that conversation did you state that you desired to continue the business of manufacturing under the patent, and were willing to pay a reasonable sum for the privilege of doing so, and that you hoped that Carhart, Needham & Co. would not be hard upon you as to the sum to be charged, and that you had done all in your power to sustain the patent, and that you desired to pursue your said business peaceably, and conform to any reasonable demands they might make, or anything to that effect?

(Objected to as immaterial and irrelevant.)

Ans. I don't recollect of having conversation to that effect in full.

Cross-int. 38. Do you recollect of having a conversation to that effect in part?

Ans. I do.

Cross-int. 39. What part do you not recollect?

Ans. I do not recollect that I said I had done all I could to sustain the patent since the trial in 1856 or 1857.

Cross-int. 40. Did you, in that conversation, ask the right to make reeds and reed-boards for use in the instruments you should make yourself, and say that you would not make them to sell to other instrument makers?

(Objected to as immaterial and irrelevant.)

Ans. I don't recollect making any such proposition. Am strongly of the opinion that I did not, because I tried to negotiate to make melodeons and reeds together, and to sell reeds to parties without there being trouble in their using them.

Direct examination resumed by Arthur Fletcher, esq., counsel for defendant:

Int. 41. You have been inquired of relative to a conversation between you and Needham and Swartz in November, 1862. Please state the substance of that conversation between you and Needham, so far as you remember it. And if you remember any with Swartz, state that also?

(Objected to.)

Ans. We commenced by discussing the merits of this patent. He felt sure the patent was good, he said, and I felt equally sure
157 it was not. I told him then, as I had several times before, that I could produce an instrument that was made some six years before his first original application for a patent; that there was all in it that he claimed as his invention. I told him I had no desire to break down the patent, but that it was for our mutual interest that it should be sustained; that if he would give me a right to make melodeons and reeds I was willing to pay the same that A. Davis & Co. paid. I told him that if I was sued I should defend myself, if possible, and felt sure that I could do it. He told me then and frequently before that they should never trouble me; but before they sold me another right he thought I had better pay the balance due him on the first. I told him that I had fulfilled my agreement in that respect, but that I would see him again in regard to it, and if we could effect a settlement, so that the public would know that I had a right, I would be glad to do so. I told him that I had never had a lawsuit and never wanted one. He replied that he could not sell me a right to make reeds and sell them to melodeon makers, as he bound himself to A. Davis & Co., Worcester, not to sell. That was the substance of the conversation. There might have been something said between myself and Mr. Swartz, but I do not recollect what it was, if anything, as I had always had conversations with Mr. Needham in relation to the patent.

Int. 42. Will you state why then, or at any time, you declined to pay the note given for the right to use their invention under their license, which has been referred to in the above conversation?

(Objected to.)

Ans. At the time the first suit commenced (the suit brought against Mason & Hamlin by Carhart, Needham & Co.) I suppose, Jeremiah Carhart was the original inventor of the suction bellows. I went out to see them, and told them that I had been urged by Mason & Hamlin to join them to put the patent down; that I preferred to buy a right, and would do so on conditions that they would sustain it. I offered them $500 for a right, on condition that they would sustain it. They said it was a very small consideration, but as I had acted very gentlemanly about it, they would accept it, providing I would pay $250 whether it was sustained or not, and would pay the remaining $250 providing they sustained it. If they did not sustain it, they would
158 not require me to pay the remaining $250. I recollect all this conversation very distinctly, from the fact that I wished to purchase the right in some way so as to avoid all after trouble. At the same time I tried to buy a right to sell reeds to melodeon makers without their being troubled in using them, which they declined to do, but promised faithfully if they sold a right to anybody to make reeds and sell them, I should have the first offer of that right.

Int. 43. What was the result of that lawsuit, if you know? and was that result the reason of your declining to pay the note?

(Objected to as incompetent.)

Ans. They did not sustain the patent; that result was the reason of my declining to pay the note.

Int. 44. Do you remember whether they called on you for payment of that note from that time down to the conversation referred to in 1862?

Ans. I don't remember that they ever did directly, but I think the note was referred to in a conversation prior to that time.

Int. 45. Is there any other reason why you declined to pay the note?

(Objected to.)

Ans. I ascertained, after the last reissue, that he was not the original inventor of anything he claimed, having found the French melodeon or seraphine referred to.

Cross-examination resumed by Causten Browne, esq., counsel for complainants:

Cross-int. 46. Was the suit you speak of against Mason and Hamlin commenced and terminated before the granting of the present reissue?

Ans. It was commenced before either of the two reissues were granted, I think—am not positive; I don't know whether it was terminated at all or not; I understood from all parties concerned that he could not and did not pretend to sustain his claim.

Cross-int. 17. What was the name of the defendant of record in that case?

Ans. I don't know whether Gordon was or not. I believe his name was Gordon; I am not certain.

159 Cross-int. 48. Was he the agent of Mason & Hamlin?

Ans. I think he was, but I am not certain.

Direct examination resumed by Arthur Fletcher, counsel for defendant:

Int. 49. Were you a witness in that suit for Carhart? If so, where and when did you testify in that cause? and had you any knowledge of the cause being in court after that term?

Ans. I was at New York city in the spring of 1856 or 1857. I never knew that it was in court afterwards.

CHARLES AUSTIN.

Concord, June 22d, 1864, before W. L. Foster, U. S. commissioner.

Deposition of George D. B. Prescott.

George D. B. Prescott, a witness produced by the defendant, doth depose and say, in answer to interrogatories proposed to him by Arthur Fletcher, esq., counsel for the defendant, as follows, viz:

Int. 1. What is your name, age, residence, and occupation?

Ans. George D. B. Prescott; twenty-nine years of age; Concord, N. H.; am a melodeon and harmonium manufacturer.

Int. 2. How many years have you been a manufacturer of reed musical instruments?

Ans. Over six years.

Int. 3. Have you examined the two models produced, one marked "Fowle No. 2, W. L. F., com'r," and one marked "Austin, W. L. F., com'r?" And if so, describe the two particularly.

Ans. I have examined them. The action is moveable from one bellows to the other. The action includes the keys and reeds. In the first the exhaust bellows is directly below the reeds and action, the same as in an ordinary melodeon, only reversed; the back be-
160 ing brought in front. The pumping bellows is the same as in an ordinary melodeon, but placed underneath the exhaust bellows some nine inches, and the wind is exhausted from the larger bellows by means of two wooden conductors placed at one end. The other instrument is in the style in which melodeons are made. The exhaust bellows is placed immediately under the action—the reed-board—as usual in melodeons ; the pumping bellows above it, for the purpose of exhausting the wind.

Int. 4. Do you mean to be understood that there are two bellows in each instrument—the one a pump bellows and the other an exhaust bellows, in each?

Ans. Yes, sir, I do. That is, my idea has always been that the upper bellows is an exhaust bellows.

Int. 5. Does the upper bellows, in the instrument marked "Austin, W. L. F., com'r," perform the office of either of the two bellows in the instrument marked "Fowle No. 2, W. L. F., com'r?" And if so, which one?

Ans. The upper bellows in the "Austin" instrument performs the office of the lower bellows in the "Fowle" instrument.

Int. 6. State whether the larger bellows, in each instrument, performs the same office ; and whether or not this larger bellows, in each instrument, is not in immediate connexion with the reed-board.

Ans. It does, and is in immediate connexion, in each instrument, with the reed-board.

Int. 7. State whether this last or larger bellows is termed the exhaust bellows by musical instrument makers.

Ans. I am not able to say fully in regard to that. I suppose it is generally called so.

Int. 8. State whether in the "Austin" instrument what you have described as two bellows would appear to one unacquainted with the construction thereof to be but one bellows.

Ans. It might be so considered by some ; generally, however, I think that upon examination by a person not familiar he would call it the upper bellows and the lower bellows.

Int. 9. Have you played upon these two instruments, having a common key-board, sufficiently to test these two features in the instruments, viz : the quality of the tone and the quickness of speaking of the reeds?

Ans. I have done so.

161 Int. 10. What was the result?

(Objected to.)

Ans. I find very little difference between the two—I don't consider any difference in regard to the quickness of the touch. With regard to the quality of the tone I think the "Fowle" instrument a trifle better than the other.

Int. 11. State whether you are a musician, and upon what instruments, and how long, you have played or practiced.

Ans. I consider myself a musician; upon pianoforte, organ, melodeon, and harmonium. I have played and practiced eighteen years.

Int. 12. State whether the mechanical contrivances in the two instruments produce substantially the same results, and are essentially the same.

(Objected to.)

Ans. I consider the principle of the two instruments substantially the same. The result I consider as nearly the same as between any two melodeons made in the same way—made alike.

Int. 13. State whether or not the bellows in the two instruments act upon the reeds substantially in the same manner. Do they in both draw the air down through the reeds by suction?

Ans. I consider that the bellows in the two instruments do act upon the reeds substantially in the same manner. They also draw the air down through the reeds by suction.

Int. 14. Will you look at the original instrument marked "Fowle, N. A. P., ex'r?" State whether the board that contains the reed-seats, or the perforations for the reeds, forms a part of the stationary leaf or cover of the exhaust bellows, and whether the same is in immediate connexion therewith.

Ans. The board does form a part of the leaf or cover of the bellows into which the wind passes from the reeds, and is in immediate connexion therewith.

Int. 15. Will you explain more fully this bellows. Does it resemble either of the bellows in the other two instruments of which you have testified?

Ans. The construction and dimensions of the bellows in the old Fowle instrument differ somewhat from the "Fowle" instru-
162 ment No. 2, but the method of exhausting the air through the reeds I consider to be the same.

Int. 16. Is the difference you speak of anything more than in form?

(Objected to as leading.)

(Question withdrawn.)

Int. 17. In what does the difference of which you speak consist?

Ans. In the "Fowle" instrument No. 2 both the exhaust and exhausting bellows are hinged upon edge of the bellows, allowing the other side to move; while in the old "Fowle" instrument the exhaust and exhausting bellows are hinged at the end, allowing the other end to move.

Int. 18. State whether that difference in construction would produce any difference in the principle or operation of the two bellows.

(Objected to.)

Ans. In my opinion I don't think it would make any difference.

Int. 19. Please state the dimensions of the tubes or conductors between the two bellows in the orignal Fowle instrument and in the Fowle instrument No. 2 ; and state how nearly alike they are.

Ans. In the original Fowle instruments the conductors seem to be eight and one-half inches long. I judge the dimensions inside are one-half inch by three and a half inches. In the Fowle instrument No. 2 the conductors seem to be precisely the same, possibly one-half an inch shorter.

Int. 20. Please examine the model certified by D. P. Holloway, Commissioner of Patents, as a duplicate of the original model filed in the Patent Office, in the matter of letters patent granted to Jeremiah Carhart, Dec. 28, 1846, marked "W. L. F., com'r, model," and describe the bellows connected therewith.

(Objected to.)

Ans. The bellows consist of a movable exhaust and an exhausting bellows combined, the exhaust bellows being directly below the reed-board, and the exhausting bellows beneath that, with one edge attached to the movable edge of the exhaust bellows ; the other edge to be operated by the foot in connexion with the pedal, thereby drawing the air from the exhaust bellows.

163 Int. 21. If there are holes or apertures which permit the air to pass from the exhaust into the exhausting bellows of the model, in what do those apertures differ, if in anything, in the office which they perform, from the tubes or conductors in the Fowle instrument?

(Objected to.)

Ans. The office of the apertures in the board between the exhaust and exhausting bellows is to allow the air to pass from one to the other. The object of the tubes or conductors in the Fowle instruments is for precisely the same purpose.

Int. 22. State whether they differ in any respect in their offices.

(Objected to.)

Ans. I can't see that they do.

Int. 23. Will you examine the valves over the reeds in the old instrument, marked "Fowle, N. A. P., ex'r," one of which valves is marked "G. D. B. P.," and say whether these valves, when in place, form a separate cell over each of the reeds?

Ans. All the valves which I have examined do form a separate cell over each of the reeds. I have examined all of them.

Int. 24. State whether you are acquainted with the principles of the construction of melodeons, and their mode of operation; and how long have you been so acquainted?

Ans. I am so acquainted to some extent. Have been so more particularly for six years. Been acquainted with their construction for twelve or thirteen years.

On cross-examination by Mr. Browne, counsel for complainants, deponent saith as follows:

Cross-int. 25. Are you junior partner of the firm Prescott Brothers, melodeon and harmonium manufacturers of Concord?

Ans. I am.

Cross-int. 26. Does your firm manufacture and sell instruments of a construction and mode of operation similar to that of the instrument produced in evidence in this examination, and marked "Austin," with the action marked across the end Hodgdon?

Ans. We do.

Cross-int. 27. How long have you been doing so?

164 Ans. I have been connected with the business a little over six years, in the manufacture and sale of said instruments.

Cross-int. 28. State how many of such instruments you have manufactured or sold, or been concerned in manufacturing or selling, during that time.

Ans. I am not able to state the exact number.

Cross-int. 29. State about how many. State as nearly as you can, to the best of your recollection.

Ans. Probably six hundred of that class.

Cross-int. 30. How does your present business in this class of instruments compare, as to extent, with that of previous years of your connexion with it?

Ans. I judge it to be about fifty per cent. larger than in previous years—than two years ago.

Cross-int. 31. From whom have you obtained, and do obtain, your reed-boards, including reeds, reed-seats, and reed-cells for these instruments?

Ans. A. Davis & Co., Worcester; Carhart, Needham & Co., New York; J. D. Whitney, Fitchburg, Mass., and Charles Austin, Concord.

Cross-int. 32. What proportion of these purchases has been made of Charles Austin, to the best of your recollection?

Ans. Up to the present time probably three-quarters.

Cross-int. 33. Is the Charles Austin in question the defendant in this suit?

Ans. He is.

Cross-int. 34. Does Mr. Austin bear the expenses of this suit alone?

Ans. I am not acquainted with Mr. Austin's affairs, and I can't state.

Cross-int. 35. Are you to bear any part of these expenses, directly or indirectly?

Ans. I don't know. I hope not.

Cross-int. 36. Have you any agreement or understanding with any one upon that subject?

Ans. Not any at all.

Cross-int. 37. Has your firm any?

Ans. It has not, to my knowledge.

Cross-int. 38. Has your brother and partner any?

(Objected to.)

165 Ans. I have already answered that question, I supposed. He has not, to my knowledge.

Cross-int. 39. Do you mean to be understood that you do not know and have not heard from Mr. Austin anything whatever as to what

assistance, if any, he is to have in bearing the expenses of this litigation?

(Objected to.)

Ins. I have no knowledge at all upon the subject.

Cross-int. 40. What is the use and purpose of the cells in the instruments your firm make, being instruments of similar construction to that marked "Austin"?

Ans. They no doubt modulate the tone, cause the reeds to vibrate quicker than they otherwise would do.

Cross-int. 41. The cell remains fixed in position, does it not, while the air passes through it over the vibrating reed?

Ans. It does.

Cross-int. 42. Must it not remain fixed in position in order that the air should so pass through it over the vibrating reed, and in order that the good effects you have attributed to it may be produced?

Ans. I can't state positively, having never seen but one with movable cells.

Cross-int. 43. You speak of "cells" in the Fowle melodeon; is there any cell over the reed through which the air passes at the time that the key is depressed and the reed is vibrating?

Ans. The cells are constructed differently in the Fowle instrument, not allowing a direct current of air through them.

Cross-int. 44. Question repeated.

Ans. I don't know whether the air passes through it or not.

Cross-int. 45. In your answer to the 23d direct interrogatory you say the valve over the reeds in the Fowle instrument, when in place, form each a separate cell over each of the reeds. Is the part marked "G. D. B. P.," the part which you call the valve?

Ans. It is.

Cross-int. 46. What do you mean by the valves being in place? Do you mean being down upon their seats over the reeds?

Ans. I do; and being open over the reeds also.

166 Cross-int. 47. Do you mean that the valves in the Fowle melodeon are constructed so as to be down on their seats over the reeds, and also open over the reeds?

Ans. Not at the same time.

Cross-int. 48. When is it that you think these valves form a cell over the reeds? when they are down upon their seats, or up off of their seats?

Ans. In both instances, according to my opinion.

Cross-int. 49. Suppose them to be down upon their seats, is the reed then vibrating?

Ans. Not unless the valve is just closed.

Cross-int. 50. Suppose the various parts of the instrument to be at rest, as when a player ordinarily begins to play, and suppose the valves to be down upon their seats, are the reeds then vibrating?

Ans. No, sir.

Cross-int. 51. You say the use of the cells, in instruments like that marked "Austin," is to modulate the tone and cause the reed to vibrate more quickly than it would otherwise do; with the valve down

and the reed at rest, the cells you referred to perform no duty, do they?

Ans. I think not.

Cross-int. 52. In the Fowle melodeon, before a reed begins to vibrate, the key is struck and the valve lifted from its seat, is it not?

(Objected to.)

Ans. It is.

Cross-int. 53. Please look and see how high it is lifted when the key is fully depressed.

Ans. From a quarter to five-sixteenths of an inch.

Cross-int. 54. Does the air then pass to the reed from all directions?

Ans. I think it does.

Cross-int. 55. Then what office do you suppose a "cell" in the Fowle melodeon is performing at that time in modulating the tone and accelerating the vibration of the reed? And if you think it is performing any, please explain fully how it acts.

Ans. I can only give my opinion, not having had an opportunity to hear the effect produced. I don't consider that the vibration of the reed is accelerated by it, but should judge that the cell above the reed would tend to soften and modulate the tone.

167 Cross-int. 56. Please give the reasons why you should so judge.

Ans. Simply this, that tone is always modified by being brought into connexion with a recess of any kind.

Cross-int. 57. Can you give any reason why a recessed valve, at an elevation of a quarter to five-sixteenths of an inch above the reed should make the tone any better than a valve not recessed at the same elevation, the air in each case flowing to the reed from all directions?

Ans. I cannot give the reasons.

Cross-int. 58. Can you give any reason?

Ans. I cannot. I have never studied the theory of sounds, of vibrations.

Cross-int. 59. Now if you consider that a valve in the Fowle melodeon, when down upon its seat with the reed at rest, performs no office in modulating the tone, or accelerating the vibration of the reed, and you cannot give any reason why it should perform any such office when it is up and off from its seat, will you state any reason why this valve performs the office of the cells in the instrument marked "Austin."

Ans. I judge that it does from the reason before given, for we well know that a tone brought into connexion with a recess is modified by it.

Cross-int. 60. But you have said that you cannot give any reason why a recessed valve should improve the tone or accelerate the vibration of the reed any more than a valve not recessed when lifted from its seat and the air flowing to the reed from all directions; and you have said that it does not improve the tone or vibration when it is down upon its seat and the reed at rest. Can you, then, give any reason for your opinion that the recessed valve in the Fowle instrument improves the tone or vibration of the instrument at all?

Ans. I can only say this, that there are certain facts in relation to the tone from reeds that I well know but cannot explain.

Cross-int. 62. State any fact in relation to the tone from reeds which affords a reason for your opinion that the recessed valve in the Fowle instrument improves the tone or vibration at all, as compared with a valve having no such recess.

Ans. The change of the position of the sounding board, placing it more or less near a perpendicular, or at a greater or less distance from the reeds, frequently changes or modifies the tone in a melodeon.

168 Cross-int. 62. What I ask you for is some fact which affords a reason for your opinion that the recessed valve in the Fowle instrument improves the tone of the reed or its vibration at all, as compared with a valve having no such recess. Can you state any such fact or reason?

Ans. I have no fact to state. I have no direct information upon the subject.

Cross-int. 63. What is the office of the packing around the edges of the face of the valve in the Fowle instrument?

Ans. To prevent the air from reaching the reed while at rest.

Cross-int. 64. Does not the recess in the face of the valve prevent the valve from striking or bearing upon the reed itself when the valve comes down?

Ans. It does.

Cross-int. 65. And what is the use of that?

Ans. It prevents a jarring sound, for one thing, that would be otherwise caused—I don't know of any other thing—when it closes down.

Cross-int. 66. What is the operation known among reed instrument makers as the voicing of the reeds, and what is its use or purpose?

Ans. It is the bending of the tongue of the reed, by means of which a more desirable tone is obtained.

Cross-int. 67. Are the reeds in the Fowle instrument voiced?

Ans. They are not voiced according to the present method of voicing. I cannot say whether they have been voiced or not.

(Question and answer objected to as immaterial.)

Cross-int. 68. If they are voiced according to any method is it as good as the method now practiced?

(Objected to as before.)

Ans. It is not.

Cross-int. 69. Are the reeds in the Fowle instrument No. 2 voiced according to the present method?

(Objected to as before.)

Ans. They are voiced according to one method. There are several different methods in practice.

Cross-int. 70. Is their method of voicing better than that of the reeds in the Fowle instrument No. 1?

(Objected to as before.)

Ans. I should say it was.

169 Cross-int. 71. In the instruments like that marked "Austin" is there any recess in the face of the valve, or any need of any?

Ans. I should think not.

Cross-int. 72. Why does not the model marked "W. L. F., com'r, model," prolong the tone of the reed more than it appears to do?

(Objected to as immaterial.)

Ans. Some defect about it; I don't understand what it is. The difficulty is with the safety-valve. It does not close tightly enough. It does not act when it should act, and I think a little more spring is needed in the exhaust bellows.

Cross-int. 73. Do you know of any instruments with two bellows connected by tubes, as in the Fowle instrument No. 1, which are made and sold in this country nowadays?

Ans. I do, with this difference; the dimensions and construction of the bellows differ a little from that, while the principle is essentially the same.

Cross-int. 74. Where are they made and for sale?

Ans. S. D. & H. W. Smith, of Boston, make them, and Farley & Pearson, of Worcester. Prescott Brothers, of Concord, have made a few. I am told of other makers.

Cross-int. 75. How many have Prescott Brothers made and sold?

Ans. I should think six or eight.

Cross-int. 76. When did they make the last one?

Ans. It was finished about three weeks ago.

Cross-int. 77. Was it sold, and to whom?

Ans. The sale has not been decided.

Cross-int. 78. Who is the proposed or expected customer?

(Objected to as immaterial.)

Ans. Charles G. James, of Plymouth, N. H.

Cross-int. 79. When was the construction of that instrument commenced?

(Objected to as immaterial.)

Ans. I think about six weeks ago.

Cross-int. 80. Have the six or eight such instruments which you speak of been made by your firm from time to time during the last six years? State as nearly as you can, how long ago each one was made.

(Objected to as before.

170 Ans. All of them were made within two years.

Cross-int. 81. For what purpose was the instrument designed which Mr. James is expected to take, and what is its general character?

(Objected to as before.)

Ans. It is called a harmonium; has three sets of reeds, six stops, two banks of keys, double exhausting bellows, and intended for church use.

Cross-int. 82. Were all the six or eight instruments above mentioned, of your firm's manufacture, of this class of instruments?

(Objected to as before.)

Ans. They were not. Perhaps one-half were of this size, and the other half with two sets of reeds. They all had a double exhausting bellows.

Cross-int. 83. Please describe what you mean by a double exhausting bellows, and the object of having them double.

Ans. The operation is essentially the same as with a single exhausting bellows. They are two bellows placed side by side, nearly the same as a single exhausting bellows divided into two. The object is to divide the labor between the two feet in blowing.

On re-examination by counsel for defendants, Mr. Fletcher, deponent saith as follows:

Int. 84. In your answer to cross-int. 71 you say there is no recess in the face of the valve in the Austin instrument, and no need of any. Will you explain why there is no such recess in said valve, and why there is no need of any?

Ans. Because there is a cell over the reed, a stationary cell, and no liability of the valve hitting the reed.

Int. 85. Is not that one of the offices performed by the cells in both the Austin and Fowle instruments? and is it the most obvious office performed by them?

(Objected to as leading.)

(Question waived.)

Int. 86. State whether or not that is one of the offices performed by the cells in both the Austin and Fowle instruments?

Ans. I think it is, to some extent.

171 Int. 87. Have they any other uses? and if so, what?

Ans. I don't know that they have any other uses.

Int. 88. Would they not serve to modulate the sounds of the reeds to some extent?

Ans. It appears so to me.

On recross-examination by counsel for complainants, Mr. Browne, deponent saith as follows:

Cross-int. 89. Please examine carefully the original Fowle instrument No. 1, and the instrument Fowle No. 2, and enumerate all the actual differences of construction you discover between the two, excluding the construction of the reed-board and the mode of hinging the bellows, which you have already mentioned.

Ans. I find the relative position of the exhaust and exhausting bellows in the two instruments to be the same, as also the wooden tubes or conductors. The exhaust bellows in Fowle No. 1 is placed immediately under the reed-board, hinged at one end of the instrument, allowing the other end to rise and fall. The exhausting bellows is beneath it, hinged at the opposite end of the instrument, leaving the other end to be moved by the action of the foot upon the pedal.

In the Fowle instrument No. 2 the exhaust bellows has the same position, with the back edge of the bellows hinged, allowing the front side to drop. The exhausting bellows beneath it is hinged upon the front side, connecting upon the back edge with the pedal. I find a different mechanical arrangement for blowing. I find one pedal for

operating directly upon the exhausting bellows, and a smaller one to be used with the other foot—the left foot—the object of which I suppose to be to lessen the pressure of the exhaust bellows upon the reeds. The real intention I am not able to state. I don't perceive any other differences.

Direct examination resumed by Mr. Fletcher, counsel for defendant:

Int. 90. Do you mean to be understood, in your last answer, that there is no difference between the materials, form, and construction of the cases of the two instruments last inquired of?

Ans. I do not.

172 Int. 91. Do you mean to be understood that there is no difference in the form and position of the reeds?

Ans. I do not.

Int. 92. Or in the form of the valves over the reeds in the two instruments?

Ans. I do not.

GEORGE D. B. PRESCOTT.

Concord, July 11th, 1864, before Wm. L. Foster, U. S. commissioner.

Deposition of Joseph W. Prescott.

Joseph W. Prescott, a witness produced by the defendant, deposes and says, in answer to interrogatories proposed to him by Austin Fletcher, esq., counsel for defendant, as follows, to wit:

Int. 1. What is your name, age, residence, and occupation?

Ans. My name is Joseph W. Prescott; my age, forty years; my residence, Concord, N. H.; my occupation, a melodeon and harmonium maker.

Int. 2. How many years have you been employed in making such instruments?

Ans. I have been employed in making reed musical instruments of different kinds over twenty years.

Int. 3. Do you practice or play on any, and what, musical instruments?

Ans. I do not practice much, and do not profess to play much on any musical instruments. I can play some on the pianoforte, organ, and melodeon.

Int. 4. For how many years have you played on either of said instruments.

Ans. I have played more or less on such instruments over twenty years.

173 Int. 5. Do you thoroughly understand the principles involved in, and mode of construction of, such reed musical instruments as you have been engaged in manufacturing?

(Objected to.)

Ans. I do.

Int. 6. Please examine the model numbered "W. L. F., com'r' model;" the Fowle instrument, numbered "Fowle, N. A. P., ex'r;" the instrument numbered "Fowle No. 2, W. L. F., com'r;" and the instrument numbered "Austin, W. L. F., com'r," and state what you regard as the principle involved in each of them.

(Objected to.)

Ans. I have examined the model, and also the three other instruments specified, and find the principle to be the same in each and all of them—that is, the drawing of the air down through the reeds when the exhausting bellows is being operated upon.

Int. 7. Describe the mechanism in each instrument by which that principle is carried out.

(Objected to.)

Ans. The "model" don't seem to be entire. In the "model" the exhausting bellows is drawn down and operated. What I understand by the mechanism would be the pedal and the strap attached to it to operate the bellows.

Int. 8. Describe the construction of the bellows attached to each instrument, and the mode by which they operate respectively.

Ans. In the "model" the air is drawn down through the reed by the exhauting bellows operating upon the exhaust bellows. There are two movable bellows, connected by a middle-board or partition between them. Each bellows is movable when being operated. The middle board or partition is movable. The exhaust bellows is above the exhausting bellows. In the Fowle instrument No. 1 the exhaust bellows is situated immediately beneath the reeds, the exhausting bellows below, and connecting with each other by the means of two wooden conductors at one end of the instrument. The bellows in that instrument are hinged at the ends, leaving the opposite ends to rise or fall as they are being operated upon.

174 In the Fowle instrument No. 2 the exhaust and exhausting bellows are hinged on the sides. The exhaust bellows is hinged on the back side of the instrument, and drops in front. The exhausting bellows is hinged on the front side of the instrument, and rises or falls on the back side when being operated on by the pedal and rod connecting them. It has also two wooden conductors connecting with the exhaust and exhausting bellows. The exhaust bellows is immediately above the exhausting bellows, and connecting immediately with the reed-board or socket-board, and this socket-board forms in part the upper leaf of the exhaust bellows.

In the "Austin" instrument the exhaust bellows is situated directly under the reed-board, the exhausting bellows directly over in the back of the instrument, and separated by a stationary board with holes through the front part of the board forming the stationary leaf. There are also holes through the back part of the same board connecting with the exhaust bellows and covered by a valve. There are also holes through the top board of the exhausting bellows, which is covered also by a valve upon the outside. The exhausting bellows is operated by a pedal and rod operating in the usual manner.

In the "model" the exhaust bellows is immediately below the socket-board and connecting with it.

Int. 9. Can there be any difference in the principle or mode of operation of the different bellows you have described, whether they are attached to their instrument by their ends or side? State whether or not the effects are precisely the same, by which I mean, do they draw the air through the instrument in the same way in each.

(Objected to as leading and incompetent.)

Ans. I think the principle is the same. The mode of operation is substantially the same. The air is drawn down in the same way in each.

Int. 10. Then if there was any difference in the tone of the instruments would it not result from a difference of the reeds and their cells?

(Objected to as leading and incompetent.)

(Question withdrawn.)

Int. 11. Then if there was any difference in the tone of the instruments, state from what cause it would result.

175 (Objected to as above, the former question having been read to the witness and he having been led thereby before the withdrawal thereof upon the record. Objected to, also, as assuming that there are cells in the instrument marked "Fowle, N. A. P., ex'r," of substantially the same character and performing substantially the same office as the cells in the instruments marked Fowle No. 2, and Austin, to which no witness has undertaken to testify.)

(The defendant desires to have entered upon the record the fact that in the examination of this witness, and others that have been examined before this commissioner, the questions have been dictated orally to the commissioner in the presence and hearing of the witness by the counsel on both sides.)

Ans. I should be unable to say. There might be different things.

Int. 12. What part of the mechanism of the instrument produces the tone.

Ans. The reed.

Int. 13. Is that tone modified by the air acting upon the reed, or by any mechanism surrounding it or connected with it, independent of the bellows?

Ans. It is; the cell over the reed.

Int. 14. Examine the model marked "W. L. F., com'r, model," and state whether or not you discover in it any cells over or surrounding the reed.

(It is admitted by the counsel for the complainants that there are none.)

Int 15. Please examine the same model and see if you can discover any swell.

Ans. I have examined it and find none.

Int. 15½. Please examine the Fowle instrument No. 1, and state the relation in which the board which contains the reed-seats is situated in regard to the exhausting bellows.

Ans. I have; and find it situated directly over and connected with the exhaust bellows.

Int. 16. Whether or not it forms a substantial part thereof.

Ans. It does.

Int. 17. Do you find in the Fowle instrument No. 1 a cell? If so, describe it, its form of construction, and its use.

Ans. I do find a cell and valve both. There are cells to all the reeds. The one I have seems to be one of the longest, and
176 belongs to one of the bass notes—seems to be three or three and a quarter inches in length, one-half inch in width, and three-eighths of an inch in depth. I should think it was mortised out on the inside to the depth of one-fourth of an inch, perhaps one-fourth of an inch in width and three inches long. Lined on the edges and ends with leather. Its use is for a valve, for one thing. It may be for modifying the tone, for another.

Int. 18. Do you know of melodeons or harmoniums, of recent construction, in which the exhausting bellows is made separately from and below the exhaust bellows, and connected with the same by tubes or conductors for the passage of air between the two?

Ans. I do.

Int. 19. Are the instruments to which you now refer used with reeds and cells arranged substantially as in the instrument marked "Austin, W. L. F., com'r?"

Ans. They were.

Int. 20. What effect has the action of the bellows in the instruments now referred to—is it improved or not?

Ans. It is improved in the instruments I am now thinking of.

Int. 21. State whether or not the reeds respond to the touch of the keys as readily as in the Austin instrument.

Ans. I can't see any difference.

Cross-examination by Mr. Browne, counsel for claimants:

Cross-int. 22. Are you a partner of G. D. B. Prescott, of Concord?

Ans. I am not.

Cross-int. 23. Are you his brother?

Ans. I am.

Cross-int. 24. Is Mr. Abraham J. Prescott his brother and partner?

Ans. He is.

Cross-int. 25. Do you make and sell reed instruments of like construction and operation to that marked Austin? I refer to the bellows and action.

Ans. I have made some similar to this of the portable kind.

Cross-int. 26. Do you know or have you ever heard from
177 Mr. Charles Austin anything about assistance he is to receive or has received in paying the expenses of this litigation?

(Objected to as irrelevant and immaterial.)

Ans. I never have. I do not know.

Cross-int. 27. Are the recent instruments you speak of as made with the bellows separate and connected by tubes, melodeons or harmoniums?

Ans. Those I had reference to were harmoniums. Some made by my brothers—Prescott Brothers.

Cross-int. 28. In these harmoniums is the pumping bellows divided

into two parts which are respectively worked by the two feet of the player?

Ans. They are.

Cross-int. 29. Do these harmoniums contain all the modern improvements in such instruments, viz., the best cut of bellows, the best quality and voicing of reeds, reed-seats, and reed-cells, &c.?

Ans. I can't say about all the modern improvements, because I am not acquainted with all the different manufacturers of such instruments.

Cross-int. 30. Do they contain the best quality of reeds?

Ans. Perhaps I wouldn't be a judge on that point.

Cross-int. 31. Are these harmoniums made in the best manner now known to the trade, and with all the modern improvements upon them, so far as your knowledge of the business enables you to state?

Ans. I should think they were, so far as my knowledge extends.

Direct examination resumed by Mr. Fletcher, counsel for defendant:

Int. 32. Through what is the air drawn from the exhaust bellows into the exhausting bellows in the two instruments marked "Fowle," and through what is it drawn in the model marked "W. L. F., com'r, model," and in the instrument marked "Austin?"

Ans. In the two Fowle instruments through wooden conductors. In the model and in the Austin instrument, it passes through holes in the board separating the two bellows.

178 Int. 33. What difference in principle, if any, is there between these conductors in the two former instruments and the holes through the middle board in the said model and the Austin improvement?

(Objected to.)

Ans. The principle is the same.

Int. 34. State whether or not the conductors in the one class of instruments perform precisely the same office as the holes in the other class.

(Objected to.)

Ans. They do.

Int. 35. What difference is there in construction between these conductors and these holes through the middle-board, except that the former are longer and of larger dimensions than the latter?

(Objected to.)

Ans. In the one instrument the bellows are close together, and in the other they are not. In one the holes are round and in the other they are oblong.

Int. 36. Please examine the model marked "W. L. F., com'r, model," and state whether or not you discover connected therewith a concentrating board or chamber.

Ans. I have, and do not find either.

Int. 37. Do you find in that model a combination of reed-cells or reed-seats in any form?

(Objected to.)

Ans. I do not.

Int. 38. Do you find in that model a concentrating chamber in connexion with reed-cells or reed-seats in any form?

(Objected to.)

Ans. I do not.

Int. 39. In the harmoniums you have made was there, or not, a conductor between the wind-chest and the exhaust bellows? If yea, state the dimensions of such conductor as near as you can remember.

Ans. There was a conductor connecting with the exhaust and with the exhausting bellows, part of said conductor stationary, part of it movable, made similar to an accordeon bellows—the movable part. This conductor refers more particularly to the large organ harmoniums with pedal bass.

179 The stationary or wood part of the conductor, I should think, was seven inches wide by three and a half in thickness on the outside, and about five or six inches in length, the stuff composing it three-fourths of an inch thick.

The movable part was built right on top of the conductor, so that when the folds were shut down the space inside would perhaps be two and a half inches by six inches. That was fastened directly to the bottom of the exhaust bellows.

Int. 40. Was the tone of the reeds in these instruments impaired by the use of such conductors?

Ans. It could not be.

JOSEPH W. PRESCOTT.

Concord, N. H., July 11, 1864, before Wm. L. Foster, U. S. commissioner.

Deposition of David M. Dearborn.

David M. Dearborn, a witness produced by the defendant in the above suit, deposes and says as follows, in answer to interrogatories proposed to him by Arthur Fletcher, esq., counsel for defendant:

Int. 1. What is your name, age, residence, and occupation?

Ans. David M. Dearborn; fifty-four years old; I reside in Concord, N. H.; am a manufacturer of melodeons and pianos.

Int. 2. How long have you been such manufacturer?

Ans. Twenty years.

Int. 3. Do you thoroughly understand the principles involved in and mode of construction of melodeons and other similar reed instruments?

(Objected to.)

Ans. Yes, I think I do.

Int. 4. Please examine the bellows marked "W. L. F., com'r, model," the instruments marked "Fowle, N. A. P., ex'r," "Fowle No. 2, W. L. F., com'r," and "Austin, W. L. F., com'r," respectively, and state what you regard the principle involved in each of them to be.

(Objected to.)

180 Ans. The principle of all of them is to draw the air through the reed by suction to produce a tone.

Int. 5. State whether or not in each of them the board which con-

tains the reed-seats or perforations for the reeds, forms a part of the stationary leaf or cover of the exhaust-chamber or bellows of the instrument.

Ans. Yes, it does.

Int. 6. What difference, if any, is there in the principle or mode of operation of the bellows in said model and the three other instruments?

(Objected to.)

Ans. I don't see that there is any difference in the principle of the thing.

Int. 7. State whether the effect would be changed in either or all of them if they were hinged on the sides or ends, each differently from what it is.

(Objected to.)

Ans. The principle would not be changed; I shouldn't see that it would change the tone; it might slightly.

Int. 8. State whether you find in the model above mentioned a concentrating board or concentrating chamber, or a combination in any form of the reed-cells with the reed-seats, or a combination of a concentrating chamber with reed-seats and reed-cells in any form.

(Objected to.)

Ans. I find no concentrating board or chamber; there are no such combinations.

Int. 9. State whether you find in the old instrument marked "Fowle, N. A. P., ex'r," a cell of any kind, and of what form, over each of the reeds.

(Objected to.)

Ans. There is a cell in the valve; it seems to be oblong, and amounts to a mortise, I should think; they are of different lengths, and correspond in length with the reeds they cover; this cell is about three inches long, perhaps $\frac{3}{16}$ inch wide, and $\frac{3}{16}$ inch deep; it is covered with some leather or cloth to stop the sound when shut.

Int. 10. State whether that valve when placed over the reed forms a cell in combination with the reed-seat or reed-opening.

Objected to.)

181 Ans. There is a cell there.

Int. 11. Does that cell when in place have any other opening or communication with the air in any direction except through the perforations for the reed-seats or reed-openings?

Ans. No; no communication.

Int. 12. State whether you have tested the quality and quantity of tone, and the quickness of speaking of the reeds, of the instrument marked Fowle No. 2, as compared with the same features in the instrument marked Austin, and whether in said trial you used the same key-board and reeds or action in both instruments, and what was the result.

Ans. I have; I used the same reeds and action; I found no very material difference in the quality or quantity of tone; I found a slight variance; I found a slight difference in the quality of the tone; the quality of the tone of the Fowle No. 2, I liked better than the other; I didn't find more difference in these than I find in any half dozen

made up alike; I see no material difference in the quickness of speaking of the reeds.

Int. 13. Can you state which had the advantage of the other in that respect, if either?

Ans. I can see no particular advantage; the tone in Fowle No. 2, seemed to me to be a little firmer—a little more body to the tone.

Cross-examination by Causten Browne, esq., counsel for complainants:

Cross-int. 14. Do you make and sell reed instruments of similar construction and operation to that which is here present, marked "Austin?"

Ans. Yes.

Cross-int. 15. How long have you been engaged in making such instruments?

Ans. Something over fifteen years.

Cross-int. 16. Were you in partnership with Mr. Charles Austin? If so, how long, and when did you separate?

Ans. I was, for, I should think, four years; say twelve years since we separated.

Cross-int. 17. From whom have you bought your reeds during those twelve years?

182 Ans. I have bought of different parties; some of Carhart & Needham, some of A. Davis & Co., and some of Charles Austin.

Cross-int. 18. Have you made any instruments, using reeds obtained from Mr. Charles Austin, within the last three years?

Ans. I have.

Cross-int. 19. About how many?

Ans. I can't say, perhaps two hundred instruments.

Cross-int. 20. Have you obtained your reeds during the last three years principally from Mr. Austin?

Ans. I should think I had used as many of his reeds during that time as of all others put together.

Cross-int. 21. Have you obtained any reeds from Carhart, Needham & Co., or A. Davis & Co., within the last twelve months?

Ans. I have not directly; I have used a few of Davis's reeds within the last twelve months.

Cross-int. 22. Have all the reeds you have purchased or obtained for the last twelve months been from Mr. Charles Austin?

Ans. They have not.

Cross-int. 23. From whom have you purchased any other for the last twelve months?

Ans. A few of Farley & Taylor, Worcester; and a very few, a half dozen sets, of a man in Fitchburg; I can't remember his name now—Whitney was his name.

Cross-int. 24. State as nearly as you can how many sets of reeds you have made up into instruments in the last twelve months; and as nearly as you can how many of those sets were obtained from Mr. Austin.

Ans. I can't state the number; I will say one hundred; all from Mr. Austin, except ten sets.

Cross-int. 25. Have you given heretofore to Mr. Austin any pecuniary assistance, directly or indirectly, in carrying on this suit?

Ans. I have not.

Cross-int. 26. Have you promised to give him any such, directly or indirectly?

Ans. I have not.

Cross-int. 27. Have you agreed with him or with anybody
183 else to bear part of, or to contribute any sum towards, the expenses of his defending this suit?

Ans. Not at all.

Cross-int. 28. Do you know of any one who has?

Ans. I do not.

Cross-int. 29. Do you believe that Mr. Austin is conducting this suit entirely at his own expense?

(This question objected to, because it calls for the opinion of the witness, not as an expert, but as to the existence of a fact, and as immaterial and irrelevant. And the defendant also objects to all the questions and answers in relation to the manufacture of instruments by the witness, except so far as they relate to Mr. Austin, as immaterial and irrelevant.)

Ans. I have no reason to believe otherwise. I do so believe.

D. M. DEARBORN.

Concord, July 11th, 1864, before Wm. L. Foster, U. S. commissioner.

Deposition of John H. Morey.

John H. Morey, a witness produced by defendant, both depose and say, in answer to interrogatories proposed to him by Arthur Fletcher, esq., counsel for defendant, as follows, viz:

Int. 1. State your name, age, residence, and occupation.

Ans. John H. Morey; thirty years of age; Concord, N. H.; am a teacher of music.

Int. 2. How long have you made the practice and instruction of music your principal occupation? and upon what instruments do you play and give instruction?

Ans. For fourteen years. Upon pianoforte, organ, and melodeon, and that class of instruments.

Int. 3 Have you examined the two melodeons present, marked, "Fowle No. 2, W. D. F., com'r," and "Austin, W. L. F.,
184 com'r," and tested the quality of the tone and the quickness in responding to the touch?

Ans. I have.

Int. 4. What was the result; and how did they compare with each other in those features?

Ans. After a very careful examination, and after testing them as many as six or eight times with the same key-board or action, I was unable to find any difference whatever.

Int. 5. At the time you made this examination, and arrived at this conclusion, did you know any thing of the matters in dispute between the parties in this cause?

Ans. Nothing whatever. The two instruments sat on the side of the room, and I had no previous knowledge of which was which.

Int. 6. State whether or not you discovered any difference in the musical effects produced by the machanism of the two instruments; and, if so, what were those differences?

Ans. I discovered no difference.

On cross-examination by counsel for complainants, Mr. Browne, deponent saith as follows:

Cross-int. 7. What musical effects do you refer to as observed by you in either of the two instruments mentioned except the quality of the tone and the quickness of responding to the touch? Are there any others observed by you?

Ans. There are none others.

J. H. MOREY.

Concord N. H., July 11th, 1864, before Wm. L. Foster, U. S. commissioner.

185 *Deposition of Wm. A. Hodgdon.*

William A. Hodgdon, a witness produced by defendant, doth depose and *and* say, in answer to interrogatories proposed to him by Arthur Fletcher, esq., counsel for defendant, as follows, viz:

Int. 1. State your name, age, residence, and occupation.

Ans. William A. Hodgdon; thirty-nine years of age; Concord, New Hampshire; am city clerk at present—my general occupation is music teacher.

Int. 2. How long have you made the practice and instruction of music your general occupation?

Ans. Nineteen or twenty years.

Int. 3. Please examine the two models produced, one marked "Fowle No. 2, W. L. F., com'r," and one marked "Austin, W. L. F., com'r," and describe the construction of the two, and state what is used in common with both.

Ans. The one marked "Fowle No. 2, W. L. F., com'r," has two bellows. It has at one end two separate tubes for the passage of air. It is pretty hard for me to tell what these tubes do. Each tube is about nine inches in length, and about four inches in width, and one and one-quarter inch in thickness. Both bellows work at the same time when using the treadle. The model marked "Austin, W. L. F., com'r," has one bellows. The working of the treadle moves the whole bellows. That model has no tubes like those described in the former. One key-board can be used on both. There is but one now.

Int. 4. Is there any other visible communication between the two bellows in the first-named instrument other that the said tubes?

Ans. No other.

Int. 5. State whether you have played upon the two instruments with the same key-board.

Ans. I have, to-day.

Int. 6. State what you mean by the key-board—what does it comprise, and what part is changeable from one instrument to the other?

Ans. The key-board consists of the keys and the reeds which produce the music by vibrations of air upon the same.

That I have just described, the key-board and reeds is change-
186 able from one instrument to the other. The same is marked "Hodgdon, W. F., com'r," across the end.

Int. 7. In the instrument marked "Austin, W. L. F., com'r," are you sufficiently acquainted with its construction to state whether it is one simple bellows, or whether there may not be two bellows in one?

Ans. I am not.

Int. 8. State what effect the bellows of that instrument pruduces as compared with the effect of the bellows of the other instrument, marked "Fowle No. 2, W. L. F., com'r."

(Objected to.)

Ans. The same effect is produced, and the same result reached, as far as I can see and am capable of judging, in the instrument with one bellows as in the one with two.

Int. 9. Have you tested the two instruments sufficiently to say in which the reeds respond most quickly, if in either? and which instrument has the advantage in quality of tone, if either?

(Objected to.)

Ans. I have tested it sufficiently to say that I can't see any difference in their responding to the touch. I changed the key-boards for that purpose some six or seven times. I shouldn't want to give any preference to the quality of tone to either instrument. I couldn't. I can't see that either has any advantage over the other as to quality.

Int. 10. State in how little time the key-board or action can be changed from one instrument to the other.

Ans. Naturally it would require eight seconds—eight or ten seconds.

Int. 11. From your knowledge of musical instruments, can you state whether the instrument marked "Fowle No. 2, W. L. F., com'r," with two bellows, produces substantially the same effect as the instrument marked "Austin, W. L. F., com'r?"

(Objected to.)

Ans. From my knowledge and judgment, I say it produces substantially the same effect.

Int. 12. Can you state whether the two instruments involve substantially the same mechanical contrivances?

(Objected to.)

Ans. I cannot.

187 Int. 13. If the two instruments involve substantially different mechanical devices, how can they produce the same effect?

(Objected to.)

Ans. In the first place I think I am not capable of telling how it can be done.

Int. 14. Are you practically acquainted with the mechanical construction of instruments of the description referred to?

Ans. I am not.

WILLIAM A. HODGDON.

Concord, N. H., July 11, 1864, before Wm. L. Foster, U. S. commissioner.

Deposition of Abraham J. Prescott.

Abraham J. Prescott, a witness produced by the defendant, doth depose and say, in answer to interrogatories proposed to him by Arthur Fletcher, esq., counsel for the defendant, as follows:

Int. 1. State your name, age, residence, and occupation?

Ans. Abraham J. Prescott; forty-seven years of age; reside in Concord, N. H.; I am a musical instrument manufacturer.

Int. 2. What musical instruments have you made? and how long have you been engaged in their manufacture?

Ans. Bass viols, melodeons, seraphines, and piano stools. I have worked at the business thirty years.

Int. 3. State whether you are a musician, and upon what instruments do you play, and how long have you practiced upon such instruments.

Ans. I do not profess to be a skilful musician, although I have given attention to music and play some. I have played upon several band instruments, melodeon, organ, and pianoforte. I have practiced upon such instruments for thirty years.

Int. 4. State whether you are practically acquainted with the mechanical construction of melodeons; and how long have you been so acquainted?

Ans. I am; and have been for, according to my recollection, thirty-one years—may as well say thirty.

188 Int. 5. Have you examined the two melodeons present, one marked "Fowle No. 2, W. L. F., com'r," and the other "Austin, W. L. F., com'r;" and have you tested them sufficiently to be able to state the comparative merits of the two in respect to quality of tone and quickness of speaking of the reeds? If so, state the result.

Ans. I have. I do not see any material difference in the quality of tone or quickness of touch.

Int. 6. State whether you used the same key-board or action for both instruments; and whether the same were repeatedly tried and quickly changed from one to the other.

Ans. The same keys, reeds, and valves were used. They were repeatedly tried and quickly changed from one to the other.

(It is admitted that the key-board or action can be changed from the one to the other in eight seconds by the complainant's counsel.)

Int. 7. Do the bellows in these two instruments produce substantially the same musical results, so far as you can judge?

(Objected to.)

Ans. I do not see any difference.

Int. 8. Do they in both draw the air down through the reeds by suction?

Ans. They do.

Int. 9. What difference, if any, is there in the principle and mode of operation of the bellows of these two instruments, as compared with each other, and with the old melodeon marked "Fowle, N. A. P., ex'r?"

(Objected to.)

Ans. If by the principle is meant the method of producing musical sounds by exhausting the air from the bellows, so as to operate upon the reeds, I should say they were the same. The air in either case being exhausted from the bellows, causing the reed to vibrate on opening the valves attached to the socket-board or plate, so termed.

Int. 10. Do you mean to be understood that the principle and mode of operation of the instruments referred to are the same in all of them?

(Objected to as incompetent and leading.)

Ans. The principle by which the sound is produced is the same. The form of bellows and mechanical arrangements of the reeds and valves are somewhat different with the instrument marked "Fowle, N. A. P., ex'r," from the other two.

189 Int. 11. You have answered in regard to the principle, will you now answer in regard to the mode of operation of the three instruments?

(Objected to.)

Ans. In the instrument marked "Austin, W. L. F., com'r," the pumping bellows, as I term it, is hinged upon the edge nearest the player, and raises, in blowing, upon the back or farther edge, while the exhaust bellows is situated beneath and hung upon the front edge nearest the player. In the Fowle instrument No. 2, marked W. L. F., com'r, the bellows corresponding with the pumping bellows in the one just described is situated beneath the exhaust bellows, which is hung upon the back edge or farthest from the player. In this instrument there are two conductors connecting the chambers or the bellows, thus exhausting the air at the end from the chamber just beneath the valves of the instrument. In the Fowle instrument marked "N. A. P., ex'r," both bellows are hinged at one end instead of at one side, as in the last described; with that exception it seems to operate in the same way by exhausting the air from the top bellows, which lies directly under the keys and reeds. Instead of the holes through which the air passes, there is an oblong opening one and a half to two inches wide, tapering to about one inch in width. The socket-board, as usually termed, is covered with a thick plate, upon which the reeds are screwed upon the upper side. The arrangement for the valves, by a connexion with the loaded end of the key, is so adjusted as to stop the passage of the air from the valve when the same is closed. The blowing is somewhat different, merely from the different form of the bellows, the pedal running lengthwise instead of crosswise of the instrument.

Int. 12. Can it make any difference in the principle or mode of

operation of the bellows whether the leaves of the same are hinged on one side or the other of the instrument, or to the end thereof?

(Objected to.)

Ans. I think it cannot.

Int. 13. State whether or not the arrangements of the bellows, as you have described them in the instruments referred to, produce any substantial difference in the principle and mode of operation of the same.

(Objected to.)

190 Ans. I have described a little difference in the mechanical construction. I see there can be no difference in the production of the tone, unless the arrangement above the reeds of the "Fowle, N. A. P., ex'r," instrument might modify the same.

Int. 14. State whether the socket or reed-board forms a part of the cover or leaf of the exhaust-chamber of the exhausting bellows, and whether the same is or is not in immediate connexion therewith.

(Objected to.)

Ans. It is the same in each, and does form a part of said leaf of said chamber. It is in immediate connexion therewith.

Int. 15. Do you mean to be understood that this feature exists in the old melodeon, (Fowle, N. A. P., ex'r?)

(Objected to.)

Ans. I do.

Int. 16. Will you describe particularly the valve over the reeds in that instrument?

Ans. The valves are of different length, from one and a half to three and one-fourth inches, corresponding to the different lengths of the reeds. There is a mortise or cell in each valve in which the reed may vibrate when raised. It is lined upon the outer edges, coming in contact with the brass plate, with soft leather, to prevent the passage of the wind to the reed when the key is not in use.

Int. 17. How is the air withdrawn from the upper or exhaust bellows into the exhausting or pump bellows of the two instruments marked Fowle?

Ans. It is drawn down through the conductors in the instrument Fowle No. 2. In the Fowle instrument No. 1 it is very similar—by conductors.

Int. 18. State how the air is withdrawn from the exhaust bellows immediately below the reeds in the instrument marked "Austin," into the other or pump bellows in that instrument—through what is it drawn from one into the other?

Ans. I suppose—I cannot see as in the other—through holes or pipes, with a valve covering the opening after the wind passes.

Int. 19. Are you acquainted with the construction of the improvement in the bellows patented by Mr. Carhart, represented by the model marked "W. L. F., com'r, model?" And if so, state

191 how the air passes from one chamber of that bellows to the other—through what does it pass?

(Objected to.)

Ans. In this model, as the pumping bellows is used, a vacuum is

produced in the bellows nearest the reed. The arrangement is somewhat different from either of these. I have not examined this model particularly. It passes through the middle or movable board in this bellows, and these perforations are also covered with a valve to prevent the return of the air after it is exhausted.

Int. 20. You say these perforations; how many perforations are there in this middle board?

Ans. There are six.

Int. 21. What office do these perforations perform in that model, as compared with the office of the conductors in the two instruments marked "Fowle"?

(Objected to.)

Ans. They are for the same purpose, to allow the passage of the wind from the exhaust bellows, and by the valves over these places to prevent its return.

Int. 22. What difference in principle is there, if any, between those perforations in that model and accompanying valves, and the tubes or conductors with their accompanying valves in the two instruments marked "Fowle?"

(Objected to.)

Ans. I see no material difference; the conductors being necessarily longer in one than in the other to connect the bellows.

Int. 23. What difference is there in construction between those conductors and those perforations, except that the former are longer and of larger dimensions?

(Objected to.)

Ans. I notice no difference.

Cross-examination by Causten Browne, esq., counsel for complainants:

Cross-int. 24. (De bene.) When you say that the bellows in the instrument marked Fowle No. 2, and the instrument marked Austin, produce substantially the same musical result, do you mean
192 anything more than that in those two instruments you find an equally good quality of tone and an equal quickness of speaking of the reeds? What other musical results do you perceive or speak of?

Ans. That was all, I think, that inquiry was made in regard to.

Cross-int. 25. (De bene.) Are those the only things you mean to speak of under the expression musical results?

Ans. They are.

Cross-int. 25½ (De bene.) When you say that in the two instruments just referred to, and in the instrument marked Fowle, N. A. P., the principle by which the sound is produced is the same, do you mean anything more than that in all three the sound is produced by exhausting the air from the bellows so as to operate upon the reeds?

Ans. I have no other reference.

Cross-int. 26. You say that in each of the valves which cover the reeds in the instrument marked "Fowle, N A. P., ex'r," there is a mortise or cell in which the reed may vibrate when raised—when what is raised, the valve or the reed?

Ans. When the valve is raised from its seat by the pressure of the finger upon the key.

Cross-int. 27. When the key is pressed the valve rises a quarter of an inch or more, does it not? Should you then say that the reed vibrated in that mortise or cell, or at some distance beneath it?

Ans. It may, and very likely does, or there would seem to be no necessity for making it so deep, especially at the end where the reed is most likely to strike.

Cross-int. 28. Have you ever observed how high the reeds move at their ends in the ordinary vibration produced by the passage of the air under atmospheric pressure merely to supply the vacuum below?

Ans. I have judged from the thickness of the board that was necessary between the reed and the valve in order to prevent any jarring or disagreeable sound from the reeds coming in contact with the valve. The space between the reed and the valve is usually five-sixteenths of an inch, as generally constructed.

ABRAHAM J. PRESCOTT.

Concord, June 21, 1864, before Wm. L. Foster, U. S. commissioner.

193 *Deposition of Robert H. Eddy.*

Robert H. Eddy, a witness produced by the defendant, being duly sworn, doth depose and say, in answer to interrogatories propounded to him by Edmund Burke, esq., counsel for defendant, as follows, viz:

Int. 1. What is your name, age, residence, and occupation?

Ans. My name is Robert H. Eddy; age, 52 years; residence, Boston, Mass.; occupation, civil engineer and solicitor of patents.

Int. 2. How long have you been engaged in these occupations?

Ans. Upwards of thirty years.

Int. 3. What has been your experience with regard to inventions and mechanical devices? Have you made it your business to examine and compare them, with a view to their substantial identity or differences?

Ans. I've been more or less constantly engaged in examination of machinery and inventions of different kinds for the purpose of determining their similarity or differences, and I have been very extensively employed in the business of procuring patents for inventors as well as in preparing specifications therefor.

Int. 4. Have you ever testified as an expert in courts of justice with regard to the matters embraced in the last preceding interrogatory, and have you ever given your opinion in judicial investigations with regard to the same?

Ans. I have frequently, as an expert, testified in patent causes.

Int. 5. Have you carefully examined the reissue letters patent of Jeremiah Carhart, the complainant, dated August 18, 1857, for improvement in reed musical instruments, upon which this suit is founded?

Ans. I have, if by such is meant the second reissue of his patent.

Int. 6. Do you understand the specification and drawings annexed thereto, and the construction, the principles involved in, and the operation of, the instrument therein represented?

Ans. I have reason to believe that I do.

Int. 7. What is your opinion as to the sufficiency of such
194 specification and drawing to instruct a competent mechanic to practice the invention successfully? If, in your opinion, they are not sufficient, please state the particulars in which they are not.

Ans. I am rather disposed to the opinion that it is sufficient.

Int. 8. What is your opinion with regard to the true construction and meaning of the first claim in the specification annexed to said Carhart's reissue patent, whether or not it covers and embraces a mechanical device which is the proper subject of letters patent, or relates to construction merely, involving no invention?

(Objected to.)

Ans. Strictly considered, it seems to me to embrace simply an act, viz: that of connecting one thing to another.

Int. 9. What is your opinion with regard to the true construction and meaning of the 2d and 3d claims in said specification, whether or not each independently, or both together, embrace and cover a patentable device or devices? If not, in what respect are they defective?

(Objected to.)

Ans. I think they embrace patentable devices, and I do not see that these claims of themselves are materially defective. The first claim might possibly better express what I suppose is intended to be conveyed by it, viz., a combination consisting of reed-cells and reed-seats or openings, and I might say essentially the same with respect to the second claim.

Int. 10. Please read the last clause of said specification, and then state whether or not it is your opinion that the 2d and 3d claims cover and embrace patentable devices independently or together.

(Objected to.)

Ans. I consider the 2d and 3d claims, with the said last paragraph, to cover one combination, consisting of reed-cells, reed-seats, a concentrating chamber, and a suction or exhaust bellows capable of producing a continuous current of air through the reed opening, as set forth.

Int. 11. Have you examined a model marked "W. L. F., com'r, model," and do you understand its construction, the principle which it involves, and its mode of operation?

Ans. I have examined the model, and believe that I do understand its principles of construction and operation.

195 Int. 12. Please state the position which the exhausting chamber of the bellows in said model occupies in relation to the exhaust-chamber thereof, whether above or below the board or partition dividing the two said chambers.

Ans. It is beneath it.

Int. 13. If the exhausting chamber were above the board or partition dividing it from the exhaust-chamber, would that change of

position involve invention, or would it be one of mechanical construction merely?

Ans. Such an arrangement might involve invention in case some new and useful effect resulted from it, but where it produced the same effect without any material advantage, I should look upon the change as a mere matter of construction without invention.

Int. 14. Please state whether or not the said model marked "W. L. F., com'r," embraces substantially the mechanical devices or combinations, or any of them, described and claimed in the specification of said Carhart's reissue patent dated August 18, 1857; if not, in what respect is it defective?

Ans. It represents only what is exhibited in figures 1, 2, 3, and 4 of the drawings of Carhart's specification of such patent, excepting a treadle (*k*) and the connexion (*l*). It does not represent the reed-cells, nor does it exhibit the concentrating chamber connected with them. I find the said model contains the mechanism or device covered by the first claim, and does not cover the devices constituting the subject or combination embraced in the others.

Int. 15. Do you find in said model any other differences between the mechanism of the same and the description and drawings of said Carhart's reissue patent? If so, what are those differences?

Ans. I do not find the swell-board, the key-frame, the keys, and valve and valve-spring of the reed and reed opening.

Int. 16. Have you examined the model melodeon marked "R. E. Stilwell, ex'r, Wing," and put in evidence by the witness Wing for complainant in this case, and do you understand its construction, the principle which it embodies, and its mode of operation?

Ans. I have examined it, and I think I understand its principle of construction and mode of operation.

196 Int. 17. Please state whether or not said Wing model, designated in the last preceding interrogatory, embraces substantially the mechanical devices, or combinations, or any of them, described and claimed in the specification of said Carhart's reissue patent dated August 18, 1857; if not, in what respect is it defective?

Ans. I think it embraces the subject or mechanism contained in the first claim, but it does not contain the separate reed-cells mentioned in the second or other claim or claims. I do not think it contains the concentrating chamber, for the reason that what I take to be the concentrating chamber is a chamber outside of the swell-board, or its equivalent.

Int. 18. Have you examined the melodeon marked "Exhibit, A. S. R., com'r," and put in evidence by the witness Richard Davis for complainants, in this case, and do you understand its principles of construction and mode of operation?

Ans. I have examined it, and believe that I understand its principles of construction and mode of operation.

Int. 19. Please state whether or not the melodeon designated in the last preceding interrogatory embraces substantially the mechanism, or combinations, or any of them, described and claimed in the

specification of said Carhart's reissue patent of August 18, 1857. If not, in what respect is it defective?

Ans. I think it embraces the mechanism of the first claim, but does not represent the partition termed the concentrating board, and therefore I think a concentrating chamber in rear of the swell-board, or between such board and such partition, is not shown in the said instrument; such concentrating chamber being one of the elements of the combination covered by the 2d, 3d, and 4th sections of the claim.

Int. 20. What position does the exhausting chamber of the bellows in the two last-mentioned instruments, viz., the Wing and the Davis instruments, occupy in relation to the exhaust-chamber of the same, whether above, below, or beneath?

Ans. The exhausting chamber is beneath the exhaust-chamber in each instrument.

Int. 21. Have you examined the melodeon marked "Fowle, 197 N. A. P., ex'r," and do you understand the principles of its construction and mode of operation?

Ans. Yes.

Int. 22. Please state whether or not said instrument, designated in the last preceding interrogatory, embraces substantially the mechanism, or combinations, or any of them, described and claimed in the specification of Carhart's reissue patent dated August 18, 1857; and if not all, what devices or combinations do you find in said instrument which are described and claimed in said specification?

Ans. In my opinion the instrument contains the mechanical subject contained in the first claim, notwithstanding the exhaust-chamber and the exhausting or pumping chamber of the bellows are connected by tubes or air conduits. I cannot perceive that the mere substitution of tubes for holes or passages through a board can make any material difference in the organism or subject of the first claim, and look upon such as a matter of construction rather than of invention. I find in the instrument the reed-cells formed in the valve, and such valves placed above rather than beneath the reeds and reed openings. I do not find any swell-board nor any partition forming a concentrating chamber.

Int. 23. In the instrument last mentioned, whether or not the cells, as you have described them, are used in combination with the reeds and their seats.

Ans. They are.

Int. 24. After the invention of such a combination, if an improvement were made in the reed-cells, could that improvement be covered and protected by a claim for a general combination of the reed-cells with the reed-seats or openings, or should it be covered and secured by a claim for the specific improvement made in one of the elements of said combination, viz., the reed cells?

(Objected to.)

Ans. The improvement should be the subject of a separate and distinct patent.

Int. 25. State whether or not you find in the "Fowle" instruments the board containing the reed-seats, or perforations for the

198 reeds, so connected with the exhausting bellows that it shall form substantially a part of the stationary leaf or cover of the exhaust-chamber thereof.

Ans. In this instrument such board does form a *part* of the cover of the exhaust-chamber, and in this respect it is like the reed opening board of the model marked "W. L. F., com'r, model."

Int. 26. Please state whether or not the perforations for the passage of the air from the exhaust chamber to the exhausting chamber of the bellows in the instrument marked "A. S. R., com'r," perform substantially the same office as the tubes connecting the exhausts with the exhausting chambers of the bellows in the instrument marked "Fowle, N. A. P., ex'r."

Ans. They do.

Adjourned to August 2d, 1864.

AUGUST 2, 1864.

Int. 27. Have examined the melodeon marked "R. H. E., Aug. 25, 1863," and do you understand the principles of its construction and mode of operation?

Ans. Yes.

Int. 28. Please state whether or not the instrument designated in the last preceding interrogatory embraces substantially the mechanisms or combinations, or any of them, described and claimed in the specification annexed to the said Carhart reissue patent dated Aug. 18, 1857; and if there is any substantial difference between said instrument and the specification, state what it is.

Ans. I am of the opinion that the said instrument does contain substantially the mechanism described in the specification and claim of the said Carhart referred to.

Int. 29. In the instrument last mentioned what is the position which the exhausting chamber of the bellows occupies in relation to the exhaust-chamber thereof, whether above, below, or beneath?

Ans. The exhausting chamber is above.

Int. 30. State whether or not, placing the exhausting chamber above the board which separates it from the exhaust-chamber has the effect to change substantially the principle of its operation,

199 and does such change involve invention; or is it an arrangement of mere construction, for convenience, involving no invention?

Ans. I do not think that the change effects any change in the principle of operation of the instrument—that is to say, the drawing of the air down through the reed openings by suction The change is one simply of arrangement That it is productive of any new and useful effect by which it might be considered an improvement involving invention, I am unable to discover. It may be useful, however, in the matter of constructing the instrument.

Int. 31. In all the models and instruments in relation to which you have been interrogated in this deposition, please state generally how the air is drawn or forced through the reed openings.

Ans. Generally it is drawn by exhaust, or suction.

Int. 32. Is not that the only way in which it is drawn through the reed openings of all of them?

Ans. So far as I have been able to judge, it is.

Int. 33. Please state whether or not the exhaust and exhausting or pumping bellows, or chambers, in the "Fowle" instrument, so called, with their connecting tubes, do not constitute a continuous exhausting apparatus, operating substantially as the exhaust and exhausting chambers, with their connexions by holes or perforations for the passage of the air, described in the specification of said Carhart reissue patent, dated August 18, 1857.

Ans. I see no substantial difference in the operation of the two kinds of bellows, both producing a continuous exhaust or suction of the air through the reed openings.

Cross-examined by Causten Browne, esq., of counsel for complainants:

Cross-int. 1. Does the complainant's reissue patent dated Aug. 18, 1857, show the reeds placed over apertures called reed openings in the sound-board, and a cell so arranged over each reed with reference to the reed and reed openings and the direction of the current of air, that the air shall pass the reed and through the reed opening *from* the cell?

Ans. It does.

200 Cross-int. 2. Do you find in that patent any other combination of reed-cells and reed openings than that just stated?

Ans. I do not.

Cross-int. 3. In the melodeon marked "Exhibit, A. S. R., com'r," and put in evidence by the witness Davis, for the complainant, do you find the combination of reed-cells and reed openings just stated?

Ans. I do.

Cross-int. 4. Please refer to the statement of this combination given in the 1st cross-interrogatory, and say whether you find it in the instrument marked "Fowle, N. A. P., ex'r."

Ans. I do not think in the Fowle instrument that the air passes through the reed opening entirely from the cell, and believe the cell, in this case, is more intended to enable the reed to properly vibrate, and so as not to confine the air over it to impede its vibration. Its action may be to allow some expansion of the air over the reed, whereby the reed would vibrate better than were the valve a close one.

Cross-int. 5. Does the cell shown in the complainant's reissue have any operation to permit the extension of the air over the reed, or is its essential operation rather to direct and concentrate the air upon the reed?

Ans. I think one object of it is to direct the air upon the reed, another being to insure proper vibration of the reed. I do not think that it concentrates the air passing through the reed, except it be that air which may be passing towards the cell.

Direct examination resumed by Edmund Burke, esq., counsel for defendant:

Int. 1. State whether or not you find substantially in the instru-

ment marked "R. H. E., August 25, 1863," the same mechanism, or arrangement, or combinations as that described in the first cross-interrogatory.

Ans. Yes.

R. H. EDDY.

Boston, Aug. 2, 1864, before N. Austin Parks, special examiner and notary public.

201 United States circuit court, district of New Hampshire, vacation, 1864, in equity.

JEREMIAH CARHART *et al.*
vs.
CHARLES AUSTIN.

It is agreed that N. Austin Parks be special examiner to take depositions in the above case.

BROWNE & MAYNADIER,
Solicitors for Complainants.
A. FLETCHER, *for Defendant.*

It is also agreed that the depositions taken this week at Concord, N. H., may be completed by the proper jurat and caption any time next week.

A. FLETCHER, *for Defendant.*
BROWNE & MAYNADIER,
Solicitors for Complainants.

June 25, 1864.

202 *Deposition of John G. Pearson.*

John G. Pearson, being duly sworn, doth depose and say, in answer to interrogatories propounded to him by Causten Browne, esq., counsel for complainants, as follows, to wit:

Int. 1. What is your name, age, residence, and occupation?

Ans. John G. Pearson; age, 45; residence, Brooklyn, N. Y.; occupation at present, in the roofing business.

Int. 2. Have you ever been engaged in the manufacture and sale of reed instruments? and if so, when was it, from what time to what time, and where was it? and with whom, if any one, were you connected in that business?

Ans. I have; I commenced the manufacture for myself, in connexion with Nathan Farley, jr., at Worcester, Mass., under the name of Farley & Pearson, in the latter part of 1838, and was engaged therein from that time until the latter part of 1857; for the last three years of that time I was alone in business.

Int. 3. Was there any other firm of Farley & Pearson engaged in the reed instrument business in Worcester while you were there?

Ans. There was not.

Int. 4. Have you been manufacturing reed instruments since 1857?

Ans. I have not.

Int. 5. Has Mr. Farley been doing so since you and he separated? If so, is he still so engaged? If not, when did he quit the business?

Ans. He has not; he quitted the business in 1855—the fore part of '55, or it might have been the latter part of '54.

Int. 6. What kinds of reed instruments did your firm of Farley & Pearson make before the appearance of Carhart's patent instruments, so called, and what kind did you make afterwards?

Ans. We made altogether what is called the force or pressure bellows, including what we then called the melodeon and seraphine, the melodeon being the portable instrument, and the seraphine being the piano style. After the appearance of Carhart's instruments we made our portable instruments after his patent. For some time we
203 continued making the seraphine of the old style, but afterwards adopted the Carhart style for them also. For the last three years of my business I made the Carhart instruments principally, and occasionally I made one of the old style.

Int. 7. Were the force bellows melodeons or seraphines that you made previously to the appearance of Mr. Carhart's instrument rocking-top instruments?

Ans. They were, almost exclusively. We may have made a very few of the other style, probably not more than two or three, but principally the rocking-top, which was played upon the lap or on the table. Occasionally a customer would want legs put to them to play with the foot, but they were not made to go so, and didn't amount to much.

Int. 8. State, if you know, whether, previously to the appearance of the Carhart instrument, there were any melodeons made and sold in the United States, whether force or suction, having two bellows chambers, with tube connexions between the two chambers, or between the reed-board and the nearest chamber, for the purpose of conducting the air.

(Objected to.)

Ans. I don't think I ever saw one; we never made one ourselves, and I don't think I ever saw one.

Int. 9. Have you since that time seen such instruments, and what was their appearance as to age?

Ans. I have seen a few; they were old. I think we had one or two of that class to repair; whether suction or pressure, I don't know, but am very positive they were pressure, and they were very old affairs.

Int. 10. Have you a general knowledge of the reed instrument business as it existed from the time you went into it to the time you left it, in 1857, and of what kinds of reed instruments have been, to any considerable extent, made and sold in this country during that period?

(Objected to.)

Ans. I had.

Int. 11. Since the year 1845 how many instruments have you ever known or heard of being made in this or any other country having a

single exhaust-chamber and a single pumping chamber con-
204 nected by tubes for the passage of the air? I refer to instruments like that marked "Fowle, N. A. P.," in the particulars named.

(Objected to.)

Ans. I don't know of one. I have not seen or heard of one.

Int. 12. Supposing an instrument marked "Fowle, N. A. P.," to be provided with the improved action made nowadays, I mean with voiced reeds, reed-cells, &c., but otherwise to be constructed as you now see it, what is your judgment of the possibility of such an instrument having been manufactured and sold in competition with instruments having the two bellows chambers placed in immediate connexion and without tubes, at any time from the year 1845 down to the time of your leaving the business?

(Objected to as both leading and misleading.)

Ans. I think the appearance of the instrument would be a great detriment to the sale of it, even with the modern improvements attached to it.

Int. 13. I speak not only of the appearance of this instrument, but supposing it to be cased as instruments of like size would be cased nowadays, and taking into account the comparative cost of making, keeping in repair, packing, and transporting the instrument, how would it compete, as a matter of business, with instruments having the reed-board opening directly into the exhaust-chamber, and the exhaust-chamber directly connected with the exhausting chamber, without any tubes intervening?

Ans. If I were going into the business myself I should want the piano style and the melodeon style exclusively. I think they would sell the best—very much the best.

Int. 14. Which of the two instruments mentioned in the question do you mean when you say the "piano style and the melodeon style," the former or the latter?

Ans. I mean the latter, of course.

Int. 15. Which of the two kinds of instruments, taking a five-octave melodeon as the standard, possesses the advantage in point of compactness of structure?—instruments with the bellows-chambers separated by tubes, or instruments such as I will call "Car-
205 hart instruments," having the bellows chambers, together with a single middle-board, and no tubes intervening?

(Objected to.)

Ans. I should say the instrument without the tubes, or the Carhard instrument, decidedly.

Int. 16. State why they possess this advantage, and in what respects the importance of this advantage appears?

Ans. First, they are more compact, because the bellows take up less room, and you can get it into a smaller case, and transport it with less liability to injury, and with less expense.

Int. 17. How is it as to the two classes of instruments, as regards having the legs arranged to fold up for facility of packing and transportation?

(Objected to.)

Ans. I will say that the Carhart is made easily portable, having the legs to fold up—easily packed. I don't see how you are going to make the other portable in the case of a portable instrument.

Int. 18. What difference would there be in the proportion of bulk which the two kinds of instruments would make when packed, taking them grade for grade?

Ans. I should say one would take up double the amount of room that the other would in packing.

Int. 19. Which of the two instruments could be constructed more cheaply, and how much more cheaply, and what would be the items of saving?

Ans. The Carhart instrument could be constructed at less expense than the other, taking the five-octave for a standard. I should say fifteen dollars, more or less; I should say not less, however, than fifteen. There would be a saving in the expense of making the bellows, and in the construction of the case, and finishing its different parts, which would probably include all I should care about naming, except packing.

Int. 20. Which of the two sorts of instruments inquired of would be the more liable to get out of order and require repairing? and why?

Ans. I should say that with tubes, it being more compli-
206 cated and more liable to be damaged from the swelling and shrinking of the wood of which the tubes are constructed, thus causing liability to leak.

Int. 21. Has it been customary, during your connexion with the trade, to warrant melodeons to keep in good order for a year?

(Objected to.)

Ans. Yes, almost in all cases; when required we gave the warrant in writing, always.

Int. 22. Have you a clear recollection of the first appearance of Mr. Carhart's suction reed instruments in the trade?

(Objected to as immaterial.)

Ans. I have.

Int. 23. Please state its effect upon the trade as regards the popularity of reed instruments in general, and as regards the popularity of the melodeons and seraphines which had been previously in the market, and how rapidly such effect was perceived.

(Objected to as immaterial and irrelevant.)

Ans. I would say in regard to Mr. Farley and myself that we proceeded at once to adopt the principle, thinking it the best that we had ever seen, and that opinion, as far as my knowledge goes, was coincided in by all makers at that time at once. The effect was wonderful. I consider the introduction of the Carhart instrument the first starting of a good reed instrument business generally. I don't consider those made previously as good for anything; I mean, of course, in comparison with the Carhart instrument.

Int. 24. Did you, while in the reed instrument business, employ a hand or hands to repair?

(Objected to.)

Ans. We did repairing in connexion with our business, but did not employ hands especially for that purpose.

Int. 25. What degree of practical knowledge of the manufacture of reed instruments did you find to be required to make a man a good hand at repairing?

(Objected to.)

Ans. I should say a thorough knowledge of all parts of the instrument.

Int. 26. Why is such thorough knowledge necessary?

(Objected to.)

207 Ans. It is necessary because all parts of the instrument are liable to want repairing.

Int. 27. Did the firm of Farley & Pearson ever make any reed instruments in which the exhaust bellows and the pumping bellows were connected by tubes for conducting the air?

Ans. They did not.

Int. 28. Did you make any while you continued in the business, after the dissolution of your partnership?

Ans. I did not.

And in answer to cross-interrogatories proposed to him by Arthur Fletcher, esq., deponent saith as follows, to wit:

Cross-int. 1. Could a repairer of musical instruments in such places as Worcester, Mass., and Brooklyn, New York, readily obtain of musical instrument makers any of the parts, new, of instruments which would naturally want renewing or replacing in the course of repairs?

Ans. As a general thing I should say they could always obtain the reeds; the other parts they would have to make themselves.

Cross-int. 2. Could not new bellowses or any other parts be readily obtained of some one or other of different instrument makers?

Ans. I suppose I could purchase new bellows, and all other parts, of instrument makers, and put them together myself. There are many parts which could be procured ready made, and many which would have to be made by the repairer.

Cross-int. 3. How early did you commence making instruments with Carhart's supposed improvement, and how long did you continue to make them?

Ans. I commenced as early as 1847, and continued until 1857.

Cross-int. 4. What proportion of all the instruments that you and your firm made were of the Carhart sort?

Ans. I should say that for the first half of the time we made one-half of the Carhart style; for the balance a much larger proportion. I can't say what proportion, but much larger than one-half, and the last two or three years almost exclusively.

208 Cross-int. 5. How many other improvements, or supposed improvements, in such reed instruments, and in the machinery for manufacturing them, were patented during those ten or eleven years, as near as you can tell?

Ans. That I've no means of showing; undoubtedly some, but I couldn't tell anything about how many.

Cross-int. 6. Had the facilities for making the different parts of reed instruments been increased, and to what extent, during the same time? and had those facilities resulted in producing a better article and at a cheaper rate than before?

Ans. They had been increased to a great extent—I couldn't tell how great an extent—and I should say what there had been, perhaps, some improvements made in the construction of the instrument; but the essential parts in the reeds, or reed-boards, and bellows, have not been improved upon.

Cross-int. 7. What do you regard as the distinguishing or peculiar feature in Carhart's supposed improvement?

Ans. First, I would say the placing the reeds in the reed or socket board; another, in the exhaust or suction bellows connected with it, operating upon the reed so as to give a much quicker answer to the touch of the key, and a better quality of tone.

Cross-int. 8. Do you make the comparison as to quickness of speaking and quality of tone of Carhart's instrument with the blow-bellows instrument? If not, with what one do you?

Ans. With all others that I have seen.

Cross-int. 9. When did you first compare the Carhart instrument with other suction-bellows instruments, and how frequently since, to ascertain these features with certainty?

Ans. The time I cannot tell. I have never seen but few suction-bellows instruments while I was manufacturing Carhart's instruments. Those did not compare at all with the Carhart instrument in the good qualities of which I speak. I might further say that I have, myself, experimented with the old-fashioned reed with a suction bellows, but never could make it operate satisfactorily.

Cross-int. 10. What was the difference in your trials? Was it owing to the bellows alone, or to the manner of placing the reeds?

209 Ans. The trouble was in the construction of the reeds, and the manner in which they were placed in the boards, as I suppose.

Cross-int. 11. Had you a license from Carhart & Needham to use their patent during those ten or eleven years?

Ans. We had; and never made an instrument of the kind without it.

Cross-int. 12. Did you, during that time, know anything about, or manufacture, cells over the reeds in combination with the reed-seats, or openings, as now claimed by these complainants?

Ans. In the experiments which I had made with the suction instruments, I made a cell over the reed, which I was compelled to do in order to get the suction over the reed. It was different from that of complainants. That was, I should say, sometime between '53 and '57. I used their reeds and their reed-boards, including, of course, their cells, from the time I commenced making their instruments throughout.

Cross-int. 13. State, as near as you can, how many such suction bellows instruments you compared with Carhart's, and of how recent make, apparently.

Ans. I don't know how I can answer more definitely. I stated be-

fore that I never saw but very few of them, and those were of old construction. I may say two or three.

Cross-int. 14. So far as you could judge from their appearance, how old were they?

Ans. They must have been made a number of years; perhaps ten years, if not longer.

Cross-int. 15. How did they compare in apparent age with the "Fowle" instrument marked "N. A. P"?

Ans. They must have been of much later date than that.

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Ans. Nearly of the same principle of the Carhart suction bellows?

Cross-int. 17. How did the old reed instruments compare with those you made after Carhart's pattern, in point of good workmanship?

Ans. The workmanship in the old ones was very poor, much poorer than those I made after Carhart's pattern.

Cross-int. 18. Was there any change made, and what, if any,
210 in the arrangement or location of the exhaust and exhausting bellows of the Carhart instrument, while you made them, and how were the two located?

Ans. There was. In the first portables that I made, the bellows were both underneath, like the model "W. L. F., com'r." The larger instruments we made with the exhausting bellows on top, and the exhaust bellows underneath the centre-board. We made most of them, I should say, with the bellows on top.

Cross-int. 20. In those instruments how was the reed-board placed with reference to the exhausting bellows? Did it or not form part of the stationary leaf, or cover thereof; or was there a chamber between the reeds and that leaf or cover?

Ans. Those that were made with both bellows underneath were made like the model "W. L. F., com'r," in that particular—that is, with the reed-board directly upon the bellows. The others were made like the instrument marked "Austin, W. L. F., com'r," in that respect.

Adjourned to 25th, at 9.

JUNE 25TH, 1864.

Cross-examination resumed:

Cross-int. 21. How were the reeds made by your firm and other manufacturers, so far as you know, in 1847? I mean whether by hand or by machinery, mainly. And how in 1857, in the same particulars?

Ans. We manufactured by hand and machinery both. The socket was made by machinery; the reed entirely by hand. The reed was a piece of brass hammered down, filed out by hand, and fitted to the socket or plate. In 1857 what we made of the old-fashioned force bellows were made in the same way. Those we made with suction bellows had reeds made wholly by machinery, and those comprised nearly the whole for the last three years. The same is true of other manufacturers, I should say.

Ans. I will say that the Carhart is made easily portable, having the legs to fold up—easily packed. I don't see how you are going to make the other portable in the case of a portable instrument.

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Ans. With all others that I have seen.

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Ans. The time I cannot tell. I have never seen but few suction-bellows instruments while I was manufacturing Carhart's instruments. Those did not compare at all with the Carhart instrument in the good qualities of which I speak. I might further say that I have, myself, experimented with the old-fashioned reed with a suction bellows, but never could make it operate satisfactorily.

Cross-int. 10. What was the difference in your trials? Was it owing to the bellows alone, or to the manner of placing the reeds?

209 Ans. The trouble was in the construction of the reeds, and the manner in which they were placed in the boards, as I suppose.

Cross-int. 11. Had you a license from Carhart & Needham to use their patent during these ten or eleven years?

Ans. We had; and never made an instrument of the kind without it.

Cross-int. 12. Did you, during that time, know anything about, or manufacture, cells over the reeds in combination with the reed-seats, or openings, as now claimed by these complainants?

Ans. In the experiments which I had made with the suction instruments, I made a cell over the reed, which I was compelled to do in order to get the suction over the reed. It was different from that of complainants. That was, I should say, sometime between '53 and '57. I used their reeds and their reed-boards, including, of course, their cells, from the time I commenced making their instruments throughout.

Cross-int. 13. State, as near as you can, how many such suction bellows instruments you compared with Carhart's, and of how recent make, apparently.

Ans. I don't know how I can answer more definitely. I stated be-

fore that I never saw but very few of them, and those were of old construction. I may say two or three.

Cross-int. 14. So far as you could judge from their appearance, how old were they?

Ans. They must have been made a number of years; perhaps ten years, if not longer.

Cross-int. 15. How did they compare in apparent age with the "Fowle" instrument marked "N. A. P"?

Ans. They must have been of much later date than that.

Cross-int. 16. What sort of a suction bellows was that that you experimented with unsuccessfully?

Ans. Nearly of the same principle of the Carhart suction bellows?

Cross-int. 17. How did the old reed instruments compare with those you made after Carhart's pattern, in point of good workmanship?

Ans. The workmanship in the old ones was very poor, much poorer than those I made after Carhart's pattern.

Cross-int. 18. Was there any change made, and what, if any, in the arrangement or location of the exhaust and exhausting bellows of the Carhart instrument, while you made them, and how were the two located?

Ans. There was. In the first portables that I made, the bellows were both underneath, like the model "W. L. F., com'r." The larger instruments we made with the exhausting bellows on top, and the exhaust bellows underneath the centre-board. We made most of them, I should say, with the bellows on top.

Cross-int. 20. In those instruments how was the reed-board placed with reference to the exhausting bellows? Did it or not form part of the stationary leaf, or cover thereof; or was there a chamber between the reeds and that leaf or cover?

Ans. Those that were made with both bellows underneath were made like the model "W. L. F., com'r," in that particular—that is, with the reed-board directly upon the bellows. The others were made like the instrument marked "Austin, W. L. F., com'r," in that respect.

Adjourned to 25th, at 9.

JUNE 25TH, 1864.

Cross-examination resumed:

Cross-int. 21. How were the reeds made by your firm and other manufacturers, so far as you know, in 1847? I mean whether by hand or by machinery, mainly. And how in 1857, in the same particulars?

Ans. We manufactured by hand and machinery both. The socket was made by machinery; the reed entirely by hand. The reed was a piece of brass hammered down, filed out by hand, and fitted to the socket or plate. In 1857 what we made of the old-fashioned force bellows were made in the same way. Those we made with suction bellows had reeds made wholly by machinery, and those comprised nearly the whole for the last three years. The same is true of other manufacturers, I should say.

Cross-int. 22. What was the average cost of making the reeds and sockets combined, independent of the materials, per octave, say in the year 1847?

Ans. I should say fifty cents an octave.

211 Cross-int. 23. And what the average cost, per octave, for the same work in 1857, when the reeds were made wholly by machinery?

Ans. We made no reeds wholly by machinery.

Cross-int. 24. In 1847 did your firm, and other manufacturers, so far as you know, generally make their own reeds?

Ans. Manufacturers, ourselves included, made them themselves almost universally.

Cross-int. 25. How was it in 1857?

Ans. I should think, to a very large extent, they purchased them ready made, almost universally.

Cross-int. 26. How much had the comparative cost of making reeds been reduced—I mean, between making by hand, as in 1847, and by machinery, in 1857—the labor without the materials, I mean?

Ans. I should say one-half, and perhaps more.

Cross-int. 27. What other parts of the melodeon were generally made by machinery in 1857, which were as generally made by hand in 1847, and in what proportion was the labor reduced by this change?

Ans. The reed-board or socket-board, the cost of which I should say was reduced one-half; the legs of the portables were cut by machinery at a reduction of about the same—say one-half.

Cross-int. 28. Did you ever experiment so as to satisfy yourself whether the improvement in tone and quickness of speaking of the reeds was effected by the suction bellows mainly, or by the cells over the reeds mainly? and in what way did you experiment to ascertain this?

Ans. I have, as I explained yesterday, by using the old-fashioned reed without the cell. I should say by both the suction bellows and cells over the reeds combined.

Cross-int. 29. Were these good effects in tone and quickness of speaking produced, in any case, by the suction bellows when the cells over the reeds were not used in combination with it?

Ans. I think not in any case. It is impossible to produce that effect without the cells.

Cross-int. 30. Did you ever experiment with the combination of the blow bellows with such cells over the reeds, and with what result?

Ans. I never did with such cells, but have with cells made by hand, which improved the tone of the reed; not to the extent

212 that it is in the suction, owing to the shape of the cell.

Cross-int. 31. By using the Carhart cell with a blow-bellows instrument, would the tone and quickness of speaking, in your judgment, be equally improved over what it would be without the cells, as the tone and speaking would be by using the suction bellows with the cells and without the cells?

Ans. I should say that the cell over the reed improves the tone

and quickness of speaking both in the suction and pressure bellows instrument—much more in the suction.

Cross-int. 32. Did you notice any improvement in the tone and quickness of speaking in the suction instrument when the cells are not used in combination with it?

Ans. I think the reeds of the suction instrument will speak quicker and give a better tone, in all cases. I don't know that I can say positive about the quality of tone, but I am positive upon the other points.

Cross-int. 33. How early, if ever, did you see the internal mechanism of the common accordion?

(Objected to.)

Ans. I should say as far back as 1837 or 1838, perhaps farther. We were always in the habit of repairing them while in business.

Cross-int. 34. State whether the mechanism in those instruments was such as to form a substantial cell, or box, or enclosure over each of the reeds.

(Objected to.)

Ans. Many of them were; not all. All had cells on the upper side over the reeds when the cover was in place.

Cross-int. 35. Did those cells affect the tone in any way, and in what way?

(Objected to.)

Ans. I can't say that they did, in the accordion. On reflection, I think they improve the tone of the reeds on the upper side of the board.

Cross-int. 36. How were the reeds attached to the reed-board in the accordeon, as compared to the mode of attaching them to the reed-board in Carhart's melodeon?

(Objected to.)

213 Ans. In all cases, in the Carhart melodeon, the reed slips into a groove, which holds it in place. In the accordion the reed is held by the pressure upon the edge of the socket. In the Carhart it is held by pressure on the sides of the socket, pressing the sides together, which is a great improvement.

Cross-int. 37. State whether or not there has been any improvement in the methods of voicing the reeds since 1846, and whether such improvements have tended to increase the production and popularity of reed instruments.

(Objected to.)

Ans. I should say there had been a marked improvement, and that the tendency of such was to increase the production and popularity of reed instruments.

Cross-int. 38. Please state whether the edges of the reeds in the accordion were, or not, dovetailed so as to keep them in their place when in position, and whether they did, or not, slip into place in a similar manner to and with the same facility as Carhart's.

(Objected to.)

Ans. They were dovetailed a trifle, as a general thing. The manner of slipping in was similar, but not with the same facility?

Cross-int. 39. Why not with the same facility?

(Objected to.)

Ans. In the accordion you have got to remove the reed or centre board from its place in order to get the reed out of its position. In the Carhart you have not to do this.

Cross-int. 40. Has there been any improvement in making the bellowses within the last seventeen years, whereby they can be produced cheaper than before?

Ans. No doubt there have been improvements in the manner of making them in saving of labor. I can't say about the waste of material.

And in reply to direct interrogatories resumed by Causten Browne, esq., deponent says as follows, wit:

Int. 29. Please refer to the first sentence of your answer to the second cross-interrogatory. Just previously to your stating
214 that sentence, had you given to the counsel present a verbal explanation of the usual course of business in the matter of repairs of reed instruments?

Ans. I had.

Int. 30. Did you, after said first sentence was written down, say to the counsel present, in substance, that, standing by itself, it did not convey the facts as you meant them?

(Objected to as leading.)

Ans. I did.

Int. 31. Did the counsel for the complainant then express a desire that the verbal explanation of the facts which you had given should be put upon the record?

Ans. Yes.

Int. 31½. Did the counsel for the defendant then object to its being put upon the record, upon the ground that it was not made in answer to his question?

Ans. He did.

Int. 32. Will you now, in answer to this question, repeat as well as you can that explanation, showing particularly how far, as a general thing, such repairs as called for require or admit of the purchase of entirely new bellowses or other parts? and if not, why not?

(Objected to.)

Ans. I would state, that in repairing reed instruments the case seldom occurs in which any part of the instrument needs to be made entirely new, but portions of such parts may be needed and have to be made and replaced by the repairer; for instance, a portion of the bellows may want to be made new, such as a new covering, &c.; some of the reeds may want to be replaced by new ones, such reeds being made and fitted, and voiced and tuned by the repairer; and so it may be with other parts of the instrument, such as valves or pallets, bellows valves, keys, valve springs and bellows springs, &c.

Int. 33. In such cases what does the repairer do?

(Objected to.)

Ans. I should say that he makes and replaces such parts himself.

Int. 34. I understand you to say that the facilities for the manufacture of reed instruments have increased since the year 1846; please state what you mean by the facilities increasing.

215 Ans. Principally by the introduction of machinery for the manufacturing of the reeds and the reed-boards.

Int. 35. What produced the demand for this machinery?

(Objected to.)

Ans. I should say the demand for a good reed instrument.

Int. 36. What was the effect of the impulse given to the reed instrument manufacture in general by the introduction of Mr. Carhart's improvements, as regards the necessity of machinery for the manufacture of reed instruments or their parts?

(Objected to as leading and irrelevant.)

Ans. I should say that the introduction of that instrument was really the starting point of a flourishing reed instrument business in this country. Of course the demand for the instrument required increased facilities for making.

Int. 37. You have spoken of the improvement in workmanship and the improvement in voicing reeds, &c., between 1847 and 1857. Supposing such improvements to have been applicable, and to have been applied to the old reed instruments which preceded Carhart's, as well as to his, so that the instruments would stand side by side in the market, differing only in the fact that the Carhart instruments would contain his improvements in the construction and arrangement of the bellows and reed-board, including reed-seats and cells, could or could not such old kinds of instruments maintain themselves in the market practically, as compared with Carhart's?

(Objected to as irrelevant and instructive.)

Ans. In the first place I would say I don't think it possible, with all the improvements added, to have produced anything like so good an instrument made upon the old principle as the Carhart improvement. The reed instrument on the old principle, with all the improvements, could not have competed in the market with the Carhart instrument.

Int. 38. In your answer to the 7th cross-interrogatory, you enumerate two distinguishing features of Carhart's "supposed improvements." What other feature, if any, of Carhart's instruments, particularly as regards the construction and arrangement of the wind apparatus, do you regard as, in connexion with the others, distinguishing Mr. Carhart's improvements?

(Objected to)

216 Ans. There are other advantages in the instrument which might be named, but they are not strictly perhaps in connexion with that, with an exception, that is, that the strain upon the reed is not near as great in the Carhart instrument as in the old modes of manufacturing; necessarily the instrument will be kept in tune much longer, and more easily tuned when out of order; I mean much easier to get at to tune it.

Int. 39. How about the arrangement of the two bellows chambers in immediate connexion, without the intervention of tubes, and the

exhaust chamber in immediate connexion with the reed-board, without the intervention of tubes? Do you not include that arrangement of parts among the distinguishing features of Mr. Carhart's "supposed improvements?"

(Objected to as asked and answered before.)

Ans. I do. In my judgment the Carhart improvement is preferable in all cases?

Int. 40. (De bene esse.) In the common accordion, as known by you as early as 1837 or 1838, and since, how many of the reeds on the suction side are covered by one "cell" so called?

Ans. Usually two reeds on the same plate; those reeds are tuned in harmony either thirds or fifths, not an octave.

Int. 41. (De bene esse.) You say usually two. Do you remember seeing, prior to 1840, any accordion in which there was a distinct "cell," so called, for each separate suction reed?

Ans. I think I never did. It is always the case that there are two reeds in one plate in the accordion, with the exception of one or two of the lower or bass reeds.

Int. 42. On the under side of the reed-board, or that in which the force reeds are placed, are there any "cells," so called, at all?

Ans. There are not.

Int. 43. (De bene esse.) Does each "cell," so called, in the accordion include both suction reeds and force reeds?

Ans. They do not.

Int. 44. In your answer to the 38th direct interrogatory, you speak of the reeds being under less strain in the Carhart instrument than in previous instruments; do you mean previous force-bellows instruments?

(Objected to.)

Ans. I do.

217 And in answer to cross-interrogatories resumed by Arthur Fletcher, esq., deponent saith:

Cross-int. 41. Before answering cross-interrogatory No. 2, did you ask the privilege of giving a verbal explanation, and after such explanation did the counsel for the defendant request that the interrogatory might be repeated to you, and that your answer thereto might be put down in writing? and did you answer as recorded in the first sentence, without making any further answer, until requested by the counsel for complainants to add thereto said verbal explanation?

Ans. I did so request, and counsel for defendant did so request; and I did so answer.

Cross-int. 42. Did you afterwards add the last sentence of that answer to convey your whole meaning?

Ans. In one sense I did, and in another I did not.

Cross-int. 43. Did you make any further answer, or request any further to be recorded?

Ans. I think I did not.

Cross-int. 44. Have you or not seen accordions in which there was

a separate cell over nearly all the reeds on the upper or suction side of the instrument?

Ans. I have.

Cross-int. If in such or any accordions there be in the same cell one reed vibrated by the suction bellows and another by the blow bellows, do they both vibrate at the same time? or does the suction bellows, at the same time that it vibrates the suction reed, effectually prevent the vibrations of the force-bellows reed in the same cell?

Ans. They do not vibrate at the same time, as I understand it. The bellows has nothing to do with the stopping the reed other than by closing the pallet or leather.

Cross-int. 46. Does there more than one reed vibrate at a time in cells having both a suction reed and force reed therein?

Ans. They do not, unless there be two suction-reeds on a plate, as there is in all accordions.

Cross-int. 47. Has an accordion been brought in by the complainants' counsel for inspection during your examination? If so,
218 state how many cells in it have two reeds vibrating therein, and how many have each a single reed vibrating therein.

(Objected to, the instrument being here present ready for production, and itself the best evidence upon the point inquired of.)

Ans. There has. Every cell has two reeds vibrating into it.

Cross-int. 48. Do you mean that every cell has two reeds which vibrate therein at the same time?

Ans. I do not. One vibrates with the suction, the other with the pressure.

Cross-int. 49. Does the reed which is vibrated by the pressure, vibrate in the cell at all? or is the tone of it affected by that cell at all?

Ans. It vibrates directly into the cell, and the tone is improved by it, in my opinion.

Cross-int. 50. How many of the cells in that accordion have two reeds vibrating therein at the same time? and how many have two reeds therein which vibrate one at a time alternately?

Ans. There is no sense to that question at all, because there is no cell, aside from those that have two reeds on one plate, that has two reeds in the same cell.

Cross-int. 51. That is the inquiry. How many cells are there in that instrument that have two reeds on one plate in one cell?

Ans. One only.

Cross-int. 52. And how many other cells are there with but one reed therein?

Ans. Fifteen, as I have counted them.

Cross-int. 53. Do the force reeds in that accordion vibrate directly into the bellows?

Ans. Both into the bellows and into the cell?

Cross-int. 54. Do the other or suction reeds vibrate both in the cells and into the bellows?

Ans. They do.

Cross-int. 55. How can the force reeds vibrate in the cells when they are not in the cells, but in the bellows?

Ans. By vibrating through the reed-board into the cells.

Cross-int. 56. What is the thickness of that reed-board,
219 and how far do any of the force-reeds vibrate each way on their sockets, as near as you can state?

Ans. About a quarter of an inch thick. I should think the bass reeds might vary, or vibrate, a quarter of an inch or more. I mean a quarter of an inch each way, up and down.

And in reply to direct interrogatories resumed by C. Browne, esq., defendant saith:

Int. 45. Please produce, as an exhibt in this case, the accordion to which you have referred during your cross-examination, and have it marked "Pearson," for identification.

(Witness produces the same, and it is marked as desired.)

Int. 46. Is that instrument a specimen of those which you saw prior to the year 1840?

(Objected to as immaterial.)

Ans. As a general thing I should say it was; with many exceptions, but as a general thing.

Int. 47. Is it a specimen as regards reed-boards and "cells," so called?

Ans. It is.

J. G. PEARSON.

DISTRICT OF MASSACHUSETTS, *Suffolk, ss:*

BOSTON, *June* 25, 1864.

Subscribed and sworn to this day by the said J. G. Pearson, who was by me duly examined, counsel for both sides being in attendance, and the witness being examined and cross-examined by them.

Witness my hand and official seal the day and year above written.

[L. S.] N. AUSTIN PARKS,
Notary Public and Special Examiner.

[5-cent stamp.]

220 *Deposition of Joseph S. Clark.*

Joseph S. Clarke, a witness on the part of complainants, being duly sworn, doth depose and say, in answer to interrogatories proposed to him by Causten Browne, esq., as follows, viz:

Int. 1. What is your name, age residence, and occupation?

Ans. Joseph S. Clark; age, 38 years; residence, New York city; occupation, repairer and tuner of reed instruments.

Int. 2. How long have you been engaged in such business, and in what places, and employed by or in connexion with what concerns?

Ans. I've been engaged in the said business since 1845; in Worcester, Massachusetts, for Farley & Pearson, and the balance of the time I've been repairing on my own account, in New York city. I worked for Farley & Pearson about six years, commencing in 1845.

Int. 3. What class of reed instruments have you been principally engaged in repairing and tuning?

Ans. Melodeons, seraphines, and harmoniums.

Int. 4. What sort of a reed instrument is commonly known in the trade as a melodeon?

Ans. An instrument of the capacity of five octaves or less, either in portable or piano style.

Int. 5. Are the bulk of the instruments known in the trade as melodeons, made in portable style or piano style, or of more or less than two sets of reeds?

Ans. Generally not over two sets of reeds are termed melodeons; over that they are another name: harmoniums, or reed organs, as some call them, or cabinet organs, or organ melodeons.

Int. 6. Are there no melodeons, so called, which are made with as many as six octaves?

Ans. There are, but they are generally in piano style of case.

Int. 7. In the course of your business since 1845, have you had in your hands for tuning or repairing melodeons having the two chambers of the bellows placed at a distance from one another, and connected by tubes for conducting the air, and also melodeons having tubes leading from the bellowses to the reed-board?

221 Ans. In the instruments I've seen of that kind it would be a question whether they should be called melodeons or seraphines. I should call them seraphines. I have had no such instruments in my hand to repair.

Int. 8. Were they all force-bellows instruments, or were some suction-bellows instruments?

Ans. Some suction and some force.

Int. 9. State as nearly as you can how many of such instruments, of all classes, (I mean with tubes,) you have had first and last in your hands for repairing.

Ans. Dozens of them; I can't say how many.

Int 10. What was the appearance of those instruments, as to their being of recent or old make?

Ans. Their appearance was that of being old.

Int. 11. How recently have you had any of such instruments in your hands to repair?

Ans. Within the last month.

Int. 12. Have you a general acquaintance with the reed instrument business, so as to know what kinds of instruments are manufactured nowadays, or have been to any extent manufactured during the last fifteen years?

Ans. Yes.

Int. 13. Do you know of any melodeons which have been made or sold during the last ten or fifteen years having an exhaust bellows and a pumping bellows, each consisting of a single chamber and connected by tubes for conducting the air from one to the other?

Ans. I do not.

Int. 14. Do you know of any reed instruments manufactured and sold within that time having the exhaust and pumping bellows sepa-

rate, and with tubes conducting from one to the other, and with the pumping bellows formed in two parts?

Ans. No, sir. (The question being read and explained to the witness.) Yes, sir.

Int. 15. Will you state of what class these last-mentioned instruments have been, and within what time, if you know, they have come into use?

222 I call them harmoniums; generally with from three to eight sets of reeds. They have come into use within the last five years.

Int. 16. What is the use, in the instruments last mentioned, of the separation of the two bellows chambers, and the use of tubes?

Ans. The separation of the bellows is to blow with both feet; the tubes are to convey the wind from one to the other bellows.

Int. 17. In what respects were the old instruments with tubes, which you have previously described, and which, to the number of some dozens, came into your hands to repair, found to be out of repair, referring particularly to the bellows and the connecting tubes?

Ans. I found the bellows leaky, for one thing. I found the joints around the tubes needed new leathering, the old leather having been gnawed off by mice, I should think so, as to cause them to leak. I've also found the tubes cracked or checked—I mean, split in the wood from warping, or the opening of a glue joint, or the wear and tear of the instrument. In very old instruments, I've found the joints of the tubes at top and bottom racked or loosened, so that they needed new leathering to make them tight.

Int. 18. Have you had occasion frequently, in your business, to repair melodeons and other of the smaller sized reed instruments of the style known as Carhart's patent, that is, with the two chambers in immediate connexion, without the intervention of tubes, and with the reed-board communicating directly with the exhaust-chamber, without the intervention of tubes?

Ans. Yes. sir.

Int. 19. Taking the bellows apparatus and its connexions in the last-mentioned class of instruments, and comparing it with the bellows apparatus and its connexions in the old tube instruments before referred to, which, according to your experience, is the more liable to get out of order and need repair? and how much the more liable?

Ans. The tube instruments are more liable to get out of repair. I don't know how to answer the latter part of the question exactly, but should think there was nearly double the liability of the tube instruments to get out of order than the other.

Int. 20. Which of the two kinds of instruments just men-

223 tioned as the Carhart instrument and the tube instrument has the advantage of the other, in respect of compactnes of construction?

Ans. The Carhart instrument has the advantage.

Int. 21. Please to state all the items of advantage which occur to you, as arising from the matter of greater compactness, between the two kinds of instruments.

(Objected to and withdrawn for the present.)

Int. 22. Are you practically acquainted with the mode of manufacturing and packing reed instruments which have been in use during the last fifteen years?

Ans. Yes, sir.

Int. 23. Question 21 repeated.

(Objected to.)

Ans. In the first place the instrument termed Carhart's portable melodeon has the advantage over the tube instrument in being folded up in a small compass, and packed in a small box, much more convenient for transportation. In the next place it is not so complicated in construction, and is manufactured with less expense.

Int. 24. Are the piano styles of melodeons not made to fold up for transportation?

Ans. No, sir.

Int. 25. How does the superior compactness you speak of affect the cost of packing and cost of transportation? What difference is there in the proportion of bulk which the two kinds of instruments make, when packed, taking them grade for grade?

Ans. Take a five octave portable instrument when packed, it would take a box about half the size which the same number of octaves made with the tube connexions would take, packed ready for shipment.

Int. 26. How do the two kinds of instruments inquired of compare as to appearance as an article of furniture?

Ans. The portable instrument is much the handsomer article of furniture when set up.

Int. 27. What do you mean by the "portable" instrument, the Carhart, or the tube instrument?

Ans. The Carhart instrument.

Int. 28. You have spoken of the Carhart melodeons as be-
224 ing of cheaper construction than the tube connexion melodeons; please state how much additional expense is involved in making the melodeon with tube connexions, taking prices as they were three years ago, before the war.

(Objected to.)

Ans. I should judge from fifteen to twenty dollars difference, as near as I can judge.

Int. 29. You have stated that you are practically acquainted with the manufacture of such instruments; how did you obtain your practical knowledge of the subject, how early, and where?

Ans. The first practical knowledge I had was by working in a melodeon factory. Since then I have had occasion to repair all parts of a melodeon, both the case and the inside—the instrumental parts.

And in answer to cross-interrogatories proposed to him by Arthur Fletcher, esq., deponent saith as follows, to wit:

Cross-int. 1. What parts of such instruments did you learn to make, and did make, before going into the business of tuning and repairing?

Ans. I worked on the making, voicing, and tuning the reeds; not any other parts.

Cross-int. 2. What parts have you learned to make since? and have you made such parts otherwise than for occasional repairs?

Ans. I've been engaged in repairing since, all parts, as occasion might require. I have learned to make different parts by experience in repairing.

Cross-int. 3. Did you ever make any complete instrument, either of Carhart's invention, or of the kind with tubes between the bellows?

Ans. No, sir.

Cross-int. 4. What are your means of knowing the cost of making of those different kinds of instruments comparatively?

Ans. By making different parts and buying different parts already made to repair with.

Cross-int. 5. What would the entire cost be now for the entire wind apparatus of Carhart's instrument, and what that of one with tubes of the same class?

225 Ans. I should say a five-octave Carhart portable instrument would cost me to make it (the bellows part) five dollars; and I should think one with tubes would cost me to make it now eight dollars, or thereabouts.

Cross-int. 6. What would be the comparative difference in cost in the items last inquired of now, as compared with them three years ago—what per centage?

Ans. I should say from 30 to 40 per cent. more now than three years ago.

Cross-int. 7. What proportion of space does the wind apparatus occupy of the whole bulk of the complete instrument, in each of the two instruments last inquired of?

Ans. In the Carhart instrument I should think it would occupy about one-third, and in the other instrument about half of the space.

Cross-int. 8. What is the principle and mode of operation of the old instruments referred to in your answer to direct interrogatory 10, of the suction bellows; that is, in what way was the tone of the reed produced.

(Objected to, if calling for an opinion as mechanical expert, the witness not being produced as nor appearing to be qualified as such.)

Ans. It was produced by suction, the air being sucked through the reeds.

Cross-int. 9. How is the tone produced in Carhart's alleged improvement? Is it by the same principle and mode of operation, or by a different one?

(Objected to as above.)

Ans. It is produced by suction. By the same principle and mode of operation.

(The defendant, to all the testimony of this witness, objects, for the reason that it does not appear that he is an expert, either musical or mechanical, or as an artisan.)

And, in answer to direct interrogatories resumed by Causten Browne, esq., deponent saith as follows, viz:

Int. 30. Does your business of repairing reed instruments include replacing worn-out parts of the instrument, by parts made by yourself? and if so, what parts?

226 Ans. It does. I have supplied entire new bellows to old instruments, new valves, new valve springs, new reeds—in fact, almost every part except the cases. I mean except entire new cases.

Int. 31. You put the present cost of your making the entire wind apparatus of a five-octave Carhart melodeon, and of a tube connexion melodeon, of the same grade, at five dollars and eight dollars, respectively; what makes up the remainder of the expense of the tube connexion instrument over the other, which entire expense you put at from fifteen to twenty dollars?

Ans. It would be in the case of the instrument.

And, in answer to cross-interrogatories proposed by Arthur Fletcher, esq., deponent saith as follows, viz:

Cross-int. 10. What is the proportional size of the cases, as you have ordinarily found them, in instruments of each class referred to in the last direct interrogatory.

Ans. I've usually found those with the tubes larger than those of Carhart's make, usually longer and wider, and sometimes higher. On an average, I should say, from two to six inches longer, and from two to four inches wider.

Cross-int. 11. What proportion of your business for the last fifteen years has been repairing, and what proportion tuning, musical instruments?

Ans. I should say half and half—I think I've repaired as many as I have tuned.

Cross-int. 12. Have you now, and have you generally had, others in your employment in repairing such instruments? and how many?

Ans. No, sir; I've done it all myself.

Cross-int. 13. How many entire new bellowses have you made?

Ans. I will say twenty-five; I can't tell exactly how many.

Cross-int. 14. In the blow or force bellows without tubes, seraphines or piano-style melodeons, say five-octaves, and those of Carhart's of the same class, what is the difference in the size or compactness of the two?

Ans. I've seen them no larger than Carhart & Needham's, and I've seen them a great deal larger.

227 Cross-int. 15. Are such blow-bellows instruments necessarily larger than Carhart's?

Ans. I don't know as they are necessarily made larger.

Cross-int. 16. Have you ever seen such instruments, of piano or of other styles, with folding legs? and if so, how did they compare with Carhart's with similar legs?

Ans. I never have seen a piano-style instrument of either kind with folding legs. I have of other styles. Those with the blow bellows are more clumsy than Carhart's that I have seen.

Cross-int. 17. Are such instruments necessarily more clumsy, or less compact with the blow bellows than with the suction bellows, both having folding legs? and if so, why?

Ans. I should think they would be. I should think that it would

take a larger bellows for one of that kind than for one of Carhart & Needham's.

Cross-int. 18. Do you know whether it requires more wind, or larger bellows, in the one case than in the other?

Ans. The reed for force bellows takes more wind than for the suction, I should think, and therefore would require larger bellows to blow with the same ease.

(Objected to as giving the witness's opinion and not his knowledge; and as being argumentative.)

And, in reply to direct interrogatories resumed by Causten Browne, esq., deponent saith as follows, viz:

Int. 32. You have given the comparative length and width of the cases of the tube-connexion melodeons, and of the Carhart melodeons, state how far the casings of the two kinds of instruments extend downwards respectively.

Ans. The case of the tube instruments usually extends within four or six inches of the floor. That of the Carhart instrument extends down six or eight inches, I should think, having a space from the case to the floor of somewhere in the neighborhood of two feet.

228 And, in reply to cross-interrogatories proposed by Arthur Fletcher, esq., deponent saith as follows:

Cross-int. 19. Please examine the old instrument, marked "Fowle, N. A. P., ex'r," and say whether the case extends downward further than Carhart's instruments.

Ans. It does not; but the lower parts of the works are covered up by a silk curtain which answers the place of the case. It is not customary to use curtains nowadays at all.

(So much of the answer objected to as is not responsive to the question.)

J. S. CLARK.

DISTRICT OF MASSACHUSETTS, *Suffolk, ss:*

BOSTON, *June 24th*, 1864.

Subscribed and sworn to this day by the said J. S. Clark, who was by me duly examined, counsel for both sides being in attendance, and the witness being examined and cross-examined by them.

Witness my hand and official seal the day and year above written.

[SEAL.] N. AUSTIN PARKS,
Notary Public and Special Examiner.

[5-cent stamp.]

Deposition of Moses Kimball.

Moses Kimball, recalled on part of complainants, having been duly sworn, doth depose and say, in answer to questions proposed to him by Causten Browne, esq., as follows, viz:

Int. 1. Since your last attendance as witness in this case have you called to mind any facts which, in addition to matters already mentioned, enables you to say in what year you opened your museum at Lowell? If so, please state the same.

Ans. I lived in Lowell but one winter, that of 1840 and 1841. During that time I boarded at the Merrimac House, and the latter part of the winter came daily to Boston to attend to the fitting
229 up of the Boston Museum. While so doing I lost a little boy with croup; he died January 31st, 1841—the Boston Museum was opened in June, 1841.

Int. 2. How do these facts enable you to say in what year you opened your museum in Lowell?

Ans. Because I know it was the summer preceding the winter I have mentioned.

And in reply to cross-interrogatories proposed by Arthur Fletcher, esq., deponent saith:

Cross-int. 1. Did you spend any, and how much, time in Lowell previous to July, 1840?

Ans. I spent between one and two months; I think nearer one than two months. These were the months immediately preceding July; I boarded during that time at the American House.

Cross-int. 2. What was your business at Lowell during those one or two months?

Ans. Preparing rooms and fitting up the Lowell Museum.

Cross-int. 3. Were you at Lowell at all previous to May, 1840, in that year? and how many times, and on what business, if you remember, and where did you stop there?

Ans. I think I never was in Lowell till just before the time I have mentioned, when I made a visit or two there to look for and secure rooms for the museum. I did not stop there over night, but returned to Boston, probably dined somewhere, but I have no recollection.

MOSES KIMBALL.

DISTRICT OF MASSACHUSETTS, *Suffolk, ss:*

BOSTON, *June* 25, 1864.

Subscribed and sworn to this day by the said Moses Kimball, who was duly examined by me, and counsel for both sides attended and examined and cross-examined the witness.

Witness my hand and official seal the day and year above written.

[L. S.] N. AUSTIN PARKS,
Notary Public and Special Examiner.

[5-cent stamp.]

230 THE UNITED STATES OF AMERICA, *District of New Hampshire, ss:*

I, Albert R. Hatch, clerk of the circuit court of the United States for the district of New Hampshire, do certify that the foregoing papers, numbered and paged one to two hundred and twenty-nine, inclusive, are a true and full copy of the record and of all the proceedings and evidence in the case of Jeremiah Carhart and Elias P. Needham *vs.* Charles Austin, in equity.

In testimony whereof, I have hereunto subscribed my name and affixed the seal of the said circuit court at Portsmouth, in said dis-

trict, this day of November, in the year of our Lord one thousand eight hundred and sixty-five.

ALBERT R. HATCH, *Clerk.*

231 THE UNITED STATES OF AMERICA, *District of New Hampshire, ss:*

To Charles Austin, of Concord, in said district, greeting:

You are hereby cited and admonished to be and appear at the Supreme Court of the United States to be holden at Washington on the first Monday of December next, to answer to an appeal filed in the clerk's office of our circuit court of the United States within and for our said district, from the final decree of said circuit court in a suit in equity lately pending therein, wherein Jeremiah Carhart and John P. Needham are complainants, and you are defendant, and to show cause, if any there be, why the decree entered against said complainants should not be corrected or reversed, and why speedy justice should not be done to the parties in that behalf.

Witness Nathan Clifford, esquire, at Portsmouth, the sixth day of November, A. D. 1865.

NATHAN CLIFFORD,
Associate Jus. Sup. Court, U. S.

232 NOVEMBER 27, 1865.

UNITED STATES OF AMERICA, *District of New Hampshire, ss:*

I have this served the within on the within-named Charles Austin, by giving to him in hand an attested copy of the within.

J. L. PICKERING,
U. S. Dept. Marshal.

Filed 11 December, 1865.

Fees:

Service	$0 50
Travel	10
Copy	1 00
	1 60

Record filed in Supreme Court December 4, 1865.

United States Supreme Court.

No. 65.

CARHART ET AL.
APPELLANTS,

vs.

CHARLES AUSTIN.

BRIEF FOR APPELLANTS.

BOSTON:
ROCKWELL & ROLLINS, PRINTERS,
122 WASHINGTON STREET.
1867.

BRIEF.

The bill is for injunction and account of profits from defendant's infringement of complainants' letters patent for improvements in musical instruments.

The patent was originally granted to Jeremiah Carhart, 28th Dec. 1846. Re-issued 24th June, 1856. Re-issued a second time 18th August, 1857. Extended for seven years. Half interest in the patent assigned to E. P. Needham, co-complainant, 27th February, 1861.

The second re-issue patent, on the extension of which this suit is founded, is printed at page 9 of the record.

It includes two sheets of drawings, one of which, photographed at page 24 of the record with the original specification, was the only drawing that accompanied the original patent; and the other, photographed at page 10 of the record with the re-issue in suit, was a new drawing added when that re-issue was obtained, and designed to show in detail a particular feature of the melodeon which was not apparent in the drawings of the original patent.

STATE OF THE ART.

The invention in question consists in certain improvements in reed musical instruments, that is in instruments in which the tone is produced by the vibration of a small tongue of metal (called a *reed*) under a current of air.

At the time of Carhart's invention, about twenty-five years ago, there were in existence in this country, in very small numbers, various instruments of this description having, first, a reed-board, or flat-board pierced with openings in each of which lay a reed, and any one of which being uncovered by the motion of its appropriate valve, actuated

by a key, would expose its reed to a current of air, which, by acting upon it, would cause it to vibrate, and produce the desired musical tone, and secondly, a bellows, by the working of which a current of air was made to act upon the reeds when so exposed.

Some of these instruments were "rocking-top melodeons," so called, in which the reed-board was attached to and oscillated with the upper leaf of the upper chamber of the bellows in the operation of playing, and which were designed to be held in the lap or on a table while playing. In these instruments the current of air was driven against the reeds from within the bellows outwards, in the ordinary way of operating a bellows, the two parts or chambers of the bellows opening directly the one into the other; the middle leaf being common to both.

Those of the early instruments which were constructed to stand upon the floor having the key-board stationary, were variously arranged in other respects. In some the air was driven against the reeds from within the instrument outward. In others by reversing the operation of the bellows chambers, it was drawn against the reeds from without the instrument inward. In some, the two chambers of the bellows opened directly the one into the other, the bellows, however, being arranged to force the air against the reeds by blast from within. In some, the two chambers did not open directly the one into the other, but were each complete in itself, and communicated by tubes or pipes; and of these, some were arranged to force the air out against the reeds by blast, and some were arranged to draw it in against the reeds by suction. Some which were arranged to draw the air in against the reeds by suction had not only tubes to conduct the air from one bellows to the other, but also a wind-chest between the reed-board and the upper bellows.

It was an advantage in these instruments to have the air drawn against the reeds by suction, the tone being softer and more uniform than when the air was forced against the reeds by blast from within. It was a disadvantage to have the wind-chests and tube connections; both because they were more or less incompatible with the ready action of the air upon the reed when the key was struck, or what is called the "speaking" of the reed, and with the regularity of current necessary to make a full and steady tone; and because they were cumbrous,

unsightly, adding to the expense of the instrument and requiring frequent repair.

FIRST CLAIM.

Carhart was the first to make an instrument in which the reed-board opened directly into the exhaust-chamber of a suction bellows, which chamber exhausted directly into the exhausting or pumping chamber; the reed-board forming part of the stationary leaf of the exhaust-chamber, and the middle leaf of the bellows being common to the two chambers thereof, thus dispensing altogether with wind-chests or tube connections for conducting the air either from the reed-board to the exhaust-chamber or from that to the exhausting or pumping chamber.

This is the actual novelty of construction and arrangement which is claimed in this case for Carhart, although there is reason to suppose that he was an *original* inventor of more than he can claim to have *first* invented.

The novelty above explained is the subject of the *first claim* in the re-issue in suit, and is specified very distinctly in the re-issue description and claim.

The preamble of the specification (see page 10) speaks only of "tubes and wind-chests between the bellows and the reeds."

The claim (see page 13) speaks of making the reed-board *form part* of the stationary leaf of the exhaust-chamber (there being, therefore, no tube connexions between the two), while the exhaust-chamber is placed in *immediate connexion* with the exhausting chamber (there being, therefore, no tube connexions between the two). It then adds the general expression, "without the intervention of tubes," as applying *to both cases*.

It proceeds to ascribe to this construction and arrangement of parts certain advantages. 1. "Improving the tone of the reeds and expediting their speaking." 2. "Giving a compact, light, and graceful form to the instrument," — the former advantages being chiefly, if not wholly, attributable to the absence of tube connexions between the reed-board

Fig. 1.

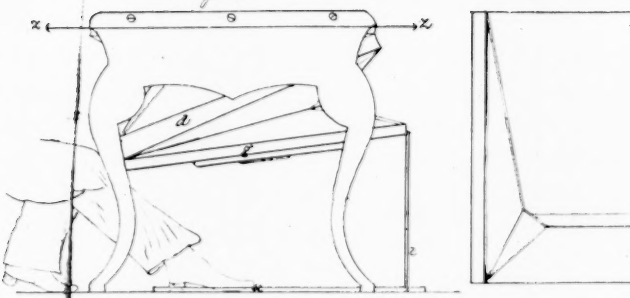


Fig. 2.

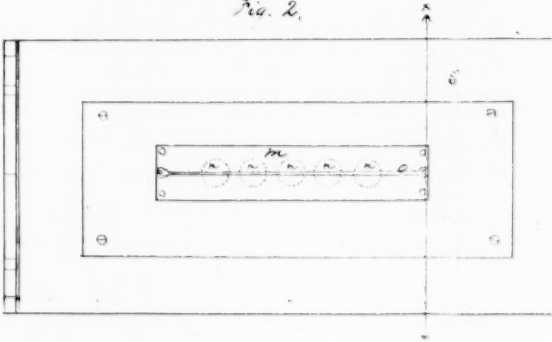


Fig. 1.

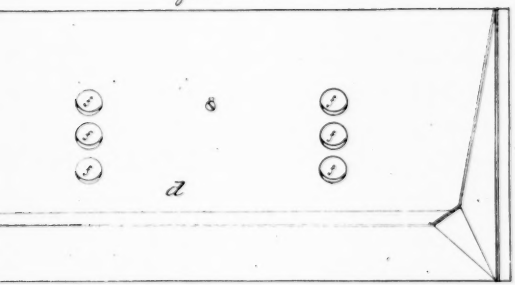
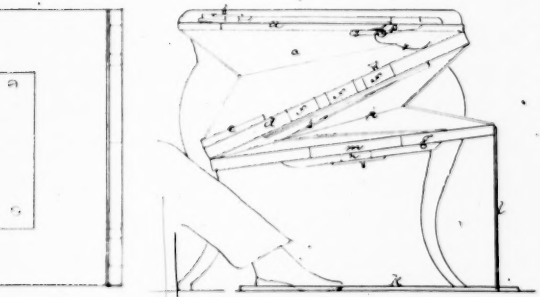


Fig. 3.



and exhaust-chamber, and between the exhaust-chamber and exhausting or pumping chamber.

Other advantages resulting from the arrangement of parts covered by the first claim appear in the testimony.

SECOND CLAIM.

The second feature of the invention, covered by the second claim, is the *reed-cells*, in combination with the *reed seats or openings*.

Only that part of the current of air which passes the tongue of the reed at right angles produces *pure vibration*. Those parts of the current which strike the edges of the reed diagonally tend only partially to vibrate the reed, and directly act to break up that part of the current which meets the edge of the reed at right angles.

It is therefore desirable that the air should be directed upon the tongue of the reed *in full volume* and *at the proper angle*, in order to vibrate the reed strongly and steadily.

No attempt to do so appears to have been made before Carhart's invention, which was, for this purpose, *combining with the reed openings a cell over each reed, into which cell the air should pass, and from the inner end of it pass directly upon and by the tongue of the reed* when exposed by the striking of its proper key.

In the language of the specification (top of page 12), "the cell over the reed should be so arranged with reference to the reed and reed-openings, and the direction of the current of air, that the air shall pass the reed and through the reed-opening from the cell." This arrangement is fully shown in Figure 5.

THIRD CLAIM.

The third feature of the invention, and that covered by the third claim, is the concentrating chamber, in combination with the reed-cells and reed-seats.

The reed-cells in the Carhart instrument being arranged (as was necessitated by the organization of that instrument) with their open ends towards the back of the instrument, the sound, passing out from them, would tend to be diffused in the rear or closed part of the instru-

ment, and so have its volume impaired. The concentrating board, being placed opposite to the outlets of the cells, forms a chamber in which the sound is gathered up or concentrated, and thrown upwards and forwards toward the open parts of the instrument.

INFRINGEMENT.

It is fully proved by complainants, and not denied, that complete instruments, containing the construction and arrangement of parts covered by the first and second claims, and *reed-boards* containing the combination covered by the second claim, have been largely made and sold by defendant since the granting of the re-issue and before and since the filing of the bill.

Affidavits of *Rice* and *Haynes* and *Prescott*, for complainants. See pp. 36, 37, 38.

NOVELTY.

Two instruments are put in evidence by defendant as being prior to Carhart's invention.

1. The "French" melodeon. This instrument, as it stands, contains the subject-matter of *the first claim*. But it was *not* prior to Carhart's invention thereof.

2. The "Fowle" melodeon. This instrument is admitted to be prior in time to Carhart's invention. But it *has* tube connections between the exhaust and exhausting chambers, and so is no answer to the patent.

We will consider the question of novelty; *first*, as regards the "Fowle" melodeon, and *secondly*, as regards the "French" melodeon.

NOVELTY.—"FOWLE" MELODEON.

It is apparent that the omission of these tube connections constitutes an actual difference in construction and operation between the Carhart instrument and the Fowle instrument. But it appears from the testi-

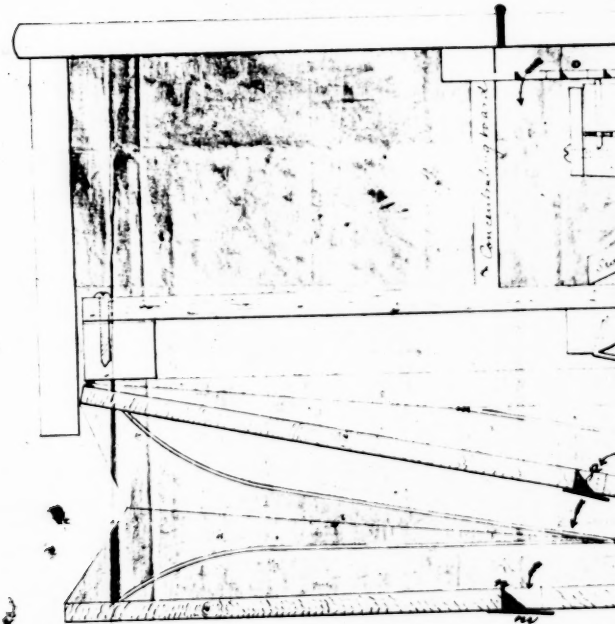
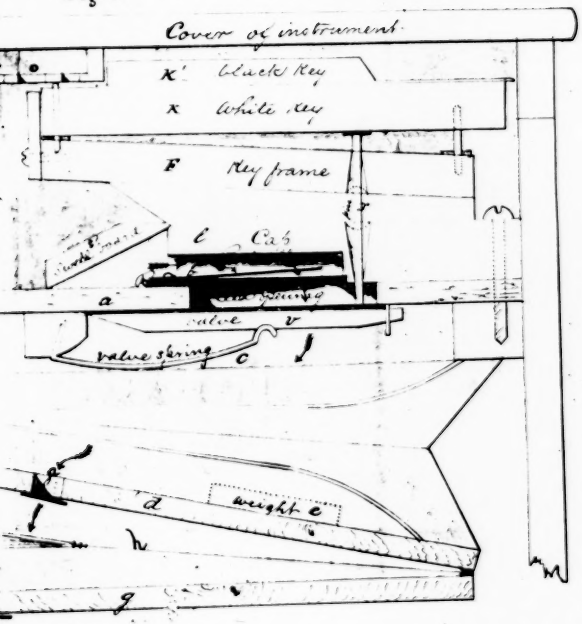


Fig 5


Cover of instrument
x' Black Key
x White Key
F Key frame
l Cab
a
valve v
valve spring c
d
weight e
h
g

mony that this difference is attended by important *practical results.* (See testimony of *Pearson* and *Clark*, witnesses for the complainants.)

Pearson, p. 202, was a manufacturer of reed instruments from 1838 (several years prior to the introduction of the Carhart instruments into the market,) to 1857, and is acquainted with the reed-instrument business of the country, as it was at that period.

Clark, p. 220, is a repairer and tuner of reed instruments, and has been so since 1845. In the course of his business he has had occasion to replace of his own make, as well as to repair, all the working parts of instruments of this class. See Direct 29; Cross 2, 4; Direct 30; Cross, 13. His work as repairer demanded the most thorough knowledge of all parts of the instruments. See Pearson, Direct 25, 26, page 206.

It does not appear that these old instruments with tube connections (whether operating by blast or by suction,) were ever made and sold to any considerable extent, or that for ten years or more they have been made at all. We get our knowledge of them principally from the witnesses Pearson and Clark, into whose hands they have come from time to time for repair. Pearson, Direct 8, 9; Cross 13, 14, 15. Clark, Direct 7, 8, 9, 10, 11.

The practical advantages resulting from the Carhart arrangement of the two bellows chambers and the reed-board, as compared with these old tube-connection instruments, appear by the testimony of these witnesses to be the following:

1. *Simplicity of construction*, and consequent less liability to get out of repair. Pearson, Direct 20. Clark, Direct 17, 18, 19.

2. *Cheapness of construction*, by omission of tube connections. Pearson, Direct 19. Clark, Direct 28; Cross 4, 5; Direct 31.

3. *Compactness of construction*, involving superior facility of packing, transportation, etc. Pearson, Direct 16, 17, 18. Clark, Direct 23, 24, 25, 26, 27, 32; Cross 19.

The superior quickness of speaking of the reeds when the air passes from them *directly* into the exhaust chamber, instead of passing through

tubes into the exhaust chamber, scarcely needs evidence, and is not disputed. See Pearson, Cross 9.

In connection with all the testimony above referred to, it is proper to observe that since the Carhart instrument came into the market there have been various causes at work, operating to cheapen and improve reed instruments in general, and the Carhart instruments in particular, such as the increase of facilities for making the different parts of the instruments, improved workmanship, reduction of cost by substituting machine for hand labor and an improvement in "voicing" the reeds, and in "reed-cells." And for all these causes allowance is to be made in ascertaining the *amount of utility* of those peculiarities of construction and arrangement which Carhart introduced, and which form the subject of his first claim.

The testimony is, however, in favor of the Carhart invention, making the most liberal allowance for these matters. See Pearson, Direct 12 13, 37; Cross 6, 7; Direct 38, 39.

A satisfactory test of the substantial and useful character of the changes made in the instrument by Carhart is afforded by *the effect upon the reed-instrument business* of the introduction of his invention. See Pearson, Direct 22, 23; Cross 4; Direct 34, 35, 36.

Since the Carhart instruments have been introduced, the tube-connection instruments have disappeared. Pearson, Direct 8, 9, 10, 11. Clark, Direct 12, 13.

It is true that within a few years there have been made instruments having the exhausting apparatus connected with the exhaust-chamber by means of tubes. These are large instruments of the organ grade called *harmoniums*, in which the exhausting bellows is formed in two parts so as to divide the labor of blowing between the two feet of the player. Their size and general arrangement make it convenient to have conductors for the current of air, the disadvantages of which are compensated by the many modern improvements which are assembled in the instrument.

The defendant has put into the case a model instrument known as "Fowle No. 2," and intended to demonstrate that the presence of the tube connections in the original "Fowle" instrument involves no practical disadvantages.

The intended demonstration fails for several reasons.

The only evidence offered in connection with it is to the effect that the quality of tone and quickness of speaking of the reeds are equal in this model instrument, "Fowle No. 2," to what they are in the defendant's instrument, constructed according to the complainant's patented arrangement.

But "Fowle No. 2" has the bellows hinged at the back, while the original Fowle instrument has it hinged at the end — a change in arrangement which itself facilitates the speaking of the reeds. And it is also constructed with the cells over the reeds, and has its reeds voiced in the modern improved way; both of which facts greatly tend to the improvement of the tone. The satisfactory qualities of "Fowle No. 2" in playing really prove nothing in favor of such an instrument as the original Fowle melodeon.

And the improvement in playing qualities of the instrument by direct connection of reed-board, exhaust-chamber and exhausting chamber are, as before shown, only *part* of the advantages obtained by dispensing with wind chests and tube connections. In the equally important matters of simplicity, compactness, etc., etc., no attempt is made to disprove, either by "Fowle No. 2" or otherwise, the strong case made in favor of the value of the complainant's new mode of construction.

The defendant himself, in the melodeons he makes, is careful to avail himself of that mode of construction.

Numerous witnesses produced by the defendant express their opinion that the "Fowle" instrument, notwithstanding its actual mechanical differences from the complainant's and defendant's instruments, is the same (as they say) "in principle."

The "principle" in question they understand to be *the drawing of the air from the reeds by suction;* and this is doubtless done in the "Fowle" instrument as well as in complainant's and defendant's. But they are in error as to what *is* "the principle." As before explained, the invention in question is only a *certain construction and arrangement* of suction instruments.

The witnesses referred to are none of them competent to testify as experts on this question of substantial identity of the patented instrument and the original "Fowle" instrument—and their testimony on that question is objected to. Four of them are melodeon manufacturers, including the defendant himself. Two of them are music teachers.

All of these four melodeon manufacturers are themselves violating the complainant's patent.

One witness only, produced by defendant, is a mechanical expert, Mr. R. H. Eddy. On reading his deposition, printed at page 193, in connection with that of Mr. Henry B. Renwick, for complainant, printed at page 89, the Court will be satisfied that the *reason of* the case on this question is clearly with the complainants.

NOVELTY—"FRENCH" MELODEON.

It will not be denied by the complainant that the "French" melodeon, so called, contains the subject-matter of the first claim.

The question on this instrument is one of *date*, so far as regards this part of the case.

It was originally made by the defendant, Charles Austin, and sold to George L. French December 15, 1838. When it went into French's hands it was a *force-bellows* instrument, having the reed-board and the two chambers of the forcing bellows directly connected, without tubes or wind-chests. It was afterwards altered by him so as to make it a suction instrument, and the *time* when this alteration was made is the thing now in dispute.

On the 27th and 28th of August, 1863, Mrs. Matilda French, the widow, and George W. French, the son, of this person who bought this melodeon and made the alterations in it, executed each an affidavit, printed at pp. 133 and 139 respectively, setting forth the affiant's knowledge of the facts in relation to such purchase and alterations. They both testified that in the year 1840 the alterations were made — the son fixing it as the spring or summer of that year. In January, 1864, they gave depositions in which they put the date of the alterations in question *one year earlier*.

Carhart's complete invention (so far as this "French" instrument contains it) is proved beyond controversy in 1839, and we think in the early part of that year. But as it may be disputed *how early* in that year, we think it important to show that the alteration of the "French" instrument did not take place *till the year following*.

It is admitted that French bought the melodeon December 15th, 1838.

Mrs. French and her son say the alteration was made *within six months afterwards*.

After they gave their affidavits and before they gave their depositions, the bill-of-sale of the instrument from Austin to French was found, and proved the sale to be a year earlier than these witnesses had stated it, in their affidavits.

It will be contended by defendant that their statement of the *interval* (six months or less), between the purchase and the alteration of the instrument, is the gist of their testimony; and that, it appearing that the purchase was in December, 1838, the alterations are proved to have been made in the spring and summer of 1839. The careful attention of the Court is desired to their depositions.

Mrs. French says her husband made the alteration "in the course o six months after he purchased it." On cross-examination, she is asked for her reasons for stating this interval. She can give no reason. She knows it was before she moved her residence from Lawrence street to Merrimack street, which was "sometime in the year 1840," — what time she cannot tell. She cannot tell within six months how long the alteration was made before she moved from Lawrence street, which she says was sometime in the year 1840. She cannot state nearer than a

year when she moved from Lawrence street, nor as near as a year when she moved *to* Lawrence street. Cross-examination, 17–27, page 131. It is to be observed, also, that in her affidavit, she states the time of the purchase of the instrument erroneously by a whole year.

We submit that *this* witness affords no satisfactory evidence that the alteration was made earlier than the summer of 1840.

Her son's testimony under cross-examination, and that of John F. Carney, show affirmatively that it *was not* made till 1840.

George L. French says, "My father made these alterations within six months, I should judge, after the instrument was purchased." The reasons he gives, on cross-examination, for fixing this interval are no reasons. But he says (Cross. 16.), that he was in his eighth year when the alterations were made. He was thirty-one years old on the 19th of January, 1864; consequently he was seven years old 19th of January, 1840; consequently he was in his eighth year in the spring and summer of 1840, and not in the spring and summer of 1839. It may be said that he is mistaken as to his age at the time the alterations were made. But, if so, he may well be mistaken within a few months in the interval which elapsed between the purchase and the alteration of the instrument.

In his affidavit, he says, "*I well remember* that in the latter part of the year 1839, my father bought of Mr. Charles Austin," etc. But in, fact, he was mistaken a whole year.

Although so young a child at the time of the transaction inquired of, he might, we grant, well remember the *fact* of alteration to a suction instrument (of which, in this case, there is no dispute), but it is very improbable that he should remember within six or nine months the *time* of such a thing, he being then a child in his eighth year.

John F. Carney says he saw the instrument in Mr. French's house, "he thinks in the spring of 1839," with the alterations, — being invited in by him to examine it. On cross-examination, he states, as the only reason for putting this in 1839 and not in 1840, that in the winter and spring of 1839 he was "out of business, doing nothing, and used to meet him once in a while." He says that he was engaged in the winter and spring a year later, — *i. e.*, winter and spring of 1840, — as a musician at the Lowell museum, of which Moses Kimball was proprietor. Cross-examination, 40–47.

On the 27th and 28th of August, 1863, Mrs. Matilda French, the widow, and George W. French, the son, of this person who bought this melodeon and made the alterations in it, executed each an affidavit, printed at pp. 133 and 139 respectively, setting forth the affiant's knowledge of the facts in relation to such purchase and alterations. They both testified that in the year 1840 the alterations were made—the son fixing it as the spring or summer of that year. In January, 1864, they gave depositions in which they put the date of the alterations in question *one year earlier.*

Carhart's complete invention (so far as this "French" instrument contains it) is proved beyond controversy in 1839, and we think in the early part of that year. But as it may be disputed *how early* in that year, we think it important to show that the alteration of the "French" instrument did not take place *till the year following.*

It is admitted that French bought the melodeon December 15th, 1838.

Mrs. French and her son say the alteration was made *within six months afterwards.*

After they gave their affidavits and before they gave their depositions, the bill-of-sale of the instrument from Austin to French was found, and proved the sale to be a year earlier than these witnesses had stated it, in their affidavits.

It will be contended by defendant that their statement of the *interval* (six months or less), between the purchase and the alteration of the instrument, is the gist of their testimony; and that, it appearing that the purchase was in December, 1838, the alterations are proved to have been made in the spring and summer of 1839. The careful attention of the Court is desired to their depositions.

Mrs. French says her husband made the alteration "in the course o six months after he purchased it." On cross-examination, she is asked for her reasons for stating this interval. She can give no reason. She knows it was before she moved her residence from Lawrence street to Merrimack street, which was "sometime in the year 1840,"—what time she cannot tell. She cannot tell within six months how long the alteration was made before she moved from Lawrence street, which she says was sometime in the year 1840. She cannot state nearer than a

year when she moved from Lawrence street, nor as near as a year when she moved *to* Lawrence street. Cross-examination, 17–27, page 131. It is to be observed, also, that in her affidavit, she states the time of the purchase of the instrument erroneously by a whole year.

We submit that *this* witness affords no satisfactory evidence that the alteration was made earlier than the summer of 1840.

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We have produced Mr. Kimball, and he shows that the Lowell Museum was not opened till July, 4, 1840. (See pp. 85, 228.)

Consequently, the winter and spring when Carney was there were the winter and spring of 1841; and *the spring preceding, when he saw the French instrument with the alterations, was the spring of* 1840.

It is also to be observed, that the sale of this instrument by Austin to French was with warranty for one year, and it is improbable that French undertook to alter the instrument till after the warranty expired.

We submit that the defendant, on whom the burden is at this point, has *not proved* the existence of the French instrument with the alteration earlier than the spring of 1840.

NOVELTY. — DATE OF CARHART'S INVENTION.

We now ask the attention of the Court to the evidence of Carhart's invention previously thereto.

The "*Wing*" *model* represents an old rocking-top melodeon as altered by Carhart.

Originally, the upper leaf, or top, of the exhaust chamber, into which the reed-board directly opened, rocked with the working of the bellows: hence, called a rocking-top melodeon. Originally, it was a force-bellows blowing the air against the reeds from the inside outward. It is true, there were no tube connections between the reed-board and the two chambers of the force-bellows; but the instrument was of a kind designed for playing in the lap or on the table, — little more than an enlarged accordeon. Carhart made the top-leaf (carrying the reed-board) stationary; thus, at once, adapting the instrument to be played by a player sitting at it piano-wise, greatly increasing its capabilities of improvement; and he also altered the bellows so as to make the instrument operate by suction of the air over the reeds, instead of blowing the air against them as before.

He thus produced a suction instrument in which the reed-board formed substantially a part of the stationary leaf of the exhaust-chamber, and the pumping-chamber was immediately connected with the

exhaust-chamber, no tube connections employed; and this is the subject of his *first claim.*

That the Wing model contains the invention which is the subject of the first claim, is testified by Mr. Renwick, witness for the complainant, (p. 90,) and *also by Mr. Eddy, witness for the defendant,* (p. 196, Int. 17).

The model produced is not the identical one which Carhart had in 1839, or earlier, but is a fac-simile of it.

The exact similarity of the model and the original is proved beyond dispute. The reasons for the non-production of the original will appear presently.

The circumstances which set Carhart upon the track of this invention are related in his deposition, pp. 62, 63.

He was an *original* inventor of much more than afterward appeared to have been *first* invented by him.

His experiments commenced in the winter of 1837–8, and the alterations he then made in a common accordion contained an important part of his invention, i. e., *the continuous exhaust to draw the air over the reeds by suction from the reeds directly to the exhaust chamber and from that directly to the pumping chamber.*

The instrument represented by the Wing model was the next one made.

In 1838–9, Carhart had a shop of his own in Buffalo, where he did job work for Nichols & Badger, musical instrument makers. He got the original rocking-top melodeon from them. How it was then constructed and what alterations were made in it, he describes at p. 65, Direct 23, 26.

The Wing model is identified as a fac-simile of Carhart's altered rocking-top melodeon, by

Carhart, p. 62, Direct 25.
Wing, p. 39, Direct 9–12 & 34–38. Direct 52–56.
Oliver, p. 49, Direct 6–14.
Badger, p. 55, Direct 23.
Nickels, p. 80, Direct 11.

The time of the alterations is shown by the same witnesses.

Carhart (p. 62) says it was six or nine months after his alteration of the accordion (which was in the winter of 1837–8), and this would

bring it to the beginning of the year 1839. He also says he made the alterations some months before he commenced work by the week for Nickels & Badger, which was September 28, 1839 (see Carhart, Direct 19, 32, 70).

Wing (p. 39) saw the altered melodeon in Carhart's workshop and Carhart explained it and played on it in May, 1839 (Direct 14, 62). He knows the time, because he went to Carhart's shop to get balls, etc., for a ten-pin alley, which he hired 1st May, 1839 (Direct 15, 16). He also says it was before Carhart went to work for Nickels & Badger by the week, which was in the fall of 1839 (see Direct 58–62, and correction made by the witness at page 49).

Oliver (p. 49) saw it in February or March of 1838 or 1839 in Carhart's premises, and had it explained to him by the inventor (Direct 3, 7, 9, 10) At that time, he says, Carhart came occasionally to Nickels and Badger's shop, and was *afterwards, during the same year*, regularly employed there (Direct 16, 19). There can be no doubt, therefore, that it was at least as early as March, 1839, that he so exhibited the instrument to Oliver (Direct 21).

Badger (p. 55), of the firm of Nickels & Badger, saw the altered instrument in Cahart's possession in his, the witness's place of business in Ellicott Block, as early as the middle of March, 1839. It could not have been later, for the witness went away the middle of March, and returned the first of May, 1839, and his firm was then moved to 200 Main street (Direct 10, 12, 48). *Nickels* p. 80) saw it also in Ellicott's Block, and consequently before May, 1839. (Direct 11, 13). This witness also proves that he and Badger dissolved partnership before June, 1840.

From this testimony all taken together, there can be no doubt (although, as is natural in the case of testimony to matters occurring twenty-five years before, there is imperfect recollection on minor points) it is shown that the altered instrument, represented by the Wing model, was in existence in Carhart's possession before the fall of 1839 (when he went to work for Nickels & Badger by the week), *and as early as the spring of that year.* Unless, therefore, the Court consider the altered French instrument as proved to have existed before the summer of 1839 (and nothing is assumed to be proved by defendant earlier

than six months after December, 1838) the novelty of the plaintiff's invention is established *upon the Wing model alone.*

But in the testimony it is fairly shown that Carhart had made his alterations in the rocking-top melodeon as early as the beginning of 1839 (certainly that he was engaged upon his invention as early as that) and like alterations in the accordion *a year earlier.*

The rocking-top melodeon, so borrowed from Nickels & Badger by Carhart, and altered by him, was required by them for a customer in 1839 or 1840, and the alterations taken off and the instrument sold.

Carhart 28, 29; Nickels 14, 15.

NOVELTY — SECOND AND THIRD CLAIMS.

The only instrument relied upon by the defendants to impeach the novelty in these claims, is the "French" melodeon as altered by French.

In this instrument there are certainly cells over the reeds.

But we submit that it does not invalidate the second claim of Carhart, and if not the second, then not the third, for the third is narrower than the second.

The second claim of Carhart is for the combination of reed-cells with reed-openings *substantially as described,* and in the description it is expressly said that the "cell over the reed should be so arranged with reference to the reed and reed-openings, and the direction of the current of air, that the air shall pass the reed, and through the reed-opening *from the cell.*"

In the "French" instrument each reed opening has over it a cell, but the construction of the reed-board containing the reed-openings is such that a large portion of the reeds are not and cannot be arranged so as to be acted upon in the manner prescribed by Carhart, viz., by the air passing the reed and through the reed-opening *from the cell.* They are in fact turned the other way, end for end, the tongue of the reed being at the entrance of the cell, which itself extends back past the heel of

the reed. In such an arrangement the office of Carhart's cell is not performed at all. Whatever advantage there may be in having a cell covering the reed with the tongue of the reed at the entrance of the cell *where the air passes in*, it is certain that it has no effect whatever, unless it be a hurtful one, upon the tone of the reeds, and does not *contain or suggest, but positively excludes and repels the idea of that use of cells over the reeds which is Carhart's invention.*

We submit, that the true question is not whether we can *to-day* detect in the "French" instrument a number of cells in combination with reed-openings, which will be the equivalent of those claimed by Carhart, but the question is whether in 1840, before Carhart had taken his patent, or made this part of his invention, a maker of reed instruments having this "French" melodeon before him, without explanation, and with only the then common knowledge of the art, would be taught by this instrument, and without any discovery or contrivance of his own, to practise Carhart's invention.

Suppose there had been but one of the reeds in the "French" melodeon so arranged that the air should pass through the cell down over the tongue of the reed, all the others being arranged the reverse way, would it be held that such an instrument invalidated Carhart's claim? Certainly not. And for the reason that, *taking the instrument altogether, it would not teach Carhart's construction.* The question is of the *rule* by which, the *plan* upon which, the instrument is built.

The case is worse for the defendant than it might be if the French instrument showed the reeds and reed-openings *all* arranged properly with reference to the current of air; and some of them covered by cells, and others not. There the artisan would probably infer the real use and operation of the cells he did find, and would only have to add more cells having the same use and operation. But in the French instrument as it is, any inference he might draw from the arrangement at one end of the reed-board, as to the real use and operation of the cells, would be repelled by what he found at the other. He would be driven to find some use and operation of the cells which was irrespective of the direction of the reeds, and any *such* use and operation, whatever else it might be, would not be Carhart's invention. The

artisan would be just as much directed to have all his reeds arranged wrong as to have them all arranged right. So far as regards the relation of the cells and reed-openings to each other and to the reeds, it is plain that no *law* or *method* of construction and arrangement whatever would be furnished him.

So far as the evidence shows, French himself had no conception of such an operation of the cells as Carhart contrived. Carney testifies that French called his attention to the fact that the instrument was made to work by suction, that it had a swell to make the tone louder or softer at will, and that he had the reeds "partitioned off, each reed by itself." But no suggestion was made of any connection between the partitioning off and the action of the air on the reeds. And when Carney is asked whether "these alterations" had not improved the tone of the instrument, he does not, in his reply, notice the cells over the reeds at all. (Direct, 5, 8, 9.)

In fact when French received the instrument from Austin, in Dec. 1839, it had the reeds arranged some one way and some the other, just as they are now, and French in his subsequent alterations, simply "partitioned off" the reeds, for some good purpose, real or imaginary, doubtless; but for a purpose which must be presumed to have had no relation to the direction of the reeds.

A significant circumstance to show that French had no idea of Carhart's principle, is that he (French) makes his cells all of the same height, whereas (as stated by Carhart in his specification) they ought to be slightly increased in height for the large reeds and diminished for the small ones.

Invention such as our laws are intended to protect is the adaptation of means to ends in the useful arts. There must be a conception of an object to be accomplished, and a contrivance of a way to accomplish it.

The cases of Hussey *vs.* Bradley, and Ransom *vs.* Mayor, etc. of New York, decided in the Second Circuit, support the complainant's case on this point.

The case of Hussey *vs.* Bradley was suit for injunction founded on a patent, among others, for forming the blades of mowing machines, at the fork or base, flush on the under side and bevelled on the upper side, in order that the lower edge, being flush, might act close to the iron-guard, past which the blades vibrated, that the grass, etc., which was forced between the blades and the lower part of the guard might be cut up and worked out by the flush edge. A prior machine was produced by defendant having a similar formation of blades, except that every other flush edge was *uppermost*. Held by Hall J. (Nelson J. concurring) that this did not invalidate plaintiff's patent.

The defendant, as regards the "French" melodeon, is in this dilemma. Either French did not intend to make any such use of cells for controlling the action of the air on the reeds, as Carhart does, or he did so intend, and for some reason was unable to carry out his intention, except for a part of the reed-board. In the first case, he did not conceive the idea, and could not have made the invention of Carhart. In the second place, he did conceive the idea, but his attempt to work it out in practice was unsuccessful.

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It is not overlooked that Mr. Eddy, expert witness for the defendant, says that he finds the plaintiff's combination of cells and reed-openings in the "French" melodeon. But this is a question on which the Court will form its own judgment upon inspection of the instrument itself.

As to the concentrating chamber, there cannot be any such as Carhart's in the French instrument, because the "cells" opening *towards* and not *from* the front of the instrument, no necessity arises for any such operation as the concentrating chamber of Carhart is intended to perform.

ABANDONMENT.

Between the time of the invention of Carhart and his application for patent in June 1846, Carhart was engaged in experiments to get the best form of bellows, and otherwise perfect the instrument. He made during this interval, several instruments, none of which were sold or used, except for experiment.

(See Carhart, Direct, 41, 50, 80, 86, Cross, 47,48.)

In and about 1846, large numbers of instruments containing all the improvements now patented were made and sold. This was more than ten years before the granting of the re-issue in suit.

The question whether this works any forfeiture of any right of complainant's will be considered presently.

It is true that neither in the specification drawings or model filed and remaining in the Patent Office, as part of the original application, do the devices covered by the 2d and 3d claims of Carhart's patent appear.

But that his original invention embraced those devices is conclusively proved as a matter of fact.

In 1846 Carhart went to Washington to take out his patent, carrying with him a small model, a copy of which is put into the case by defendant, and also a complete instrument.

The complete instrument contained all the devices covered by the present re-issue — being the result of his study and experiment during

the years which had elapsed after his alteration of the Wing melodeon in 1838 or 1839.

The small model contained (of these devices) only the arrangement covered by the 1st claim.

Carhart at that time had an interview with Hazard Knowles, then machinist in the Patent Office, and called his particular attention to the parts he claimed to have invented, including the *arrangement of reed-cells, etc.* Knowles, Direct 6.

The complete instrument was rejected as a model by the Patent Office on account of its size, and the small model was substituted.

The complete instrument having been thus rejected by the Office, was taken by Mr. Knowles, according to permission previously given by Carhart — was exchanged during the same year, 1846, with Richard Davis, a piano dealer in Washington, for a piano — sold by Davis before 1850 to Rev. James B. Donelan, who had it till 1857 in his house, (where it was seen by Knowles in 1857). In that year, with a view to obtaining the present re-issue, Mr. Fitzgerald, attorney for Carhart, obtained the instrument from Dr. Donelan, furnishing him with one of Carhart's modern instruments in exchange. The old instrument (after the modern one was sent to Dr. Donelan) having been by mistake sold among his effects, was bought back again from the auction purchaser by George Harvey — taken to a Commissioner's (N. Callan's) office, identified by Callan's name, Harvey's, and that of one W. P. Williams, now dead, and was sent by Adams' Express to Mr. Fitzgerald, New York, in August, 1857, and by him delivered to Carhart, Needham & Co., in whose possession it remained, till it was sent to Baltimore and put in evidence in this case.

That identical instrument, containing all the devices covered by the re-issue, which Carhart took with him to Washington before his first application for patent, and explained to Knowles, and which failed to remain on deposit in the Patent Office because of objection made to its size, *is now here* for the inspection of the Court.

Its identity is proved beyond question by the depositions of Knowles, Davis, Harvey, Donelan, Swartz and Carhart, witnesses for the Complainants, to which the particular attention of the Court is desired.

On the facts thus appearing in regard to the devices covered by the second and third claims, several questions of law may be anticipated.

1. Are the Complainant's rights under the re-issue forfeited by reason of his having made and sold instruments covering all the devices in suit, in 1846, more than ten years before he claimed them in his present re-issue?

We submit that they are not, on the authority of

Battin *vs.* Taggart, 17 Howard, 83.
Stimpson *vs.* Westchester R. R., 4 Howard, 402.

2. Apart from the question of intervening public use, can the re-issue be taken for a device not appearing in the specification, drawings or model filed and remaining in the Patent Office as the original application?

We submit that it can on the authority of

Stimpson *vs.* Westchester R. R., Supra.
Goodyear *vs.* Day, 2 Wallace, Jr.
Tatham *vs.* Lowber, Law's Digest, p. 618 § 6.
Dyson, exparte, Law's Digest, p. 620, §§ 28–35.
Wilson *vs.* Singer, Law's Digest p. 620, § 37.

Even a positive disclaimer of the device in question is no bar to a re-issue covering it.

Hayden, ex parte Law's Digest, 616, § 46.
Laidley *vs.* James, Law's Digest, 616, § 47.
Poppenhusen *vs.* Falke, Law's Digest, 617, § 54.

The act of 1836, § 13, provides that where a patent is inoperative or invalid by reason of a defective or insufficient description or specification, and the error has arisen by inadverteney, accident, or mistake, and without fraudulent or deceptive intention, the Commissioner may cause a new patent to be issued for the same invention.

This means the same invention which *was intended to be secured* by the original patent.

In the present case the proof that Carhart in taking his original patent did *in fact* intend to secure the things now claimed in the second and third claims of his re-issue, is as strong as the proof of such a fact can be.

The circumstances were these : Carhart, when he went to the Patent Office to get his original patent, took with him a complete instrument, embodying all the improvements to which he had devoted his time from 1838 to 1846. In addition to this he had a small model to illustrate the mode of constructing the suction bellows. He exhibited his complete instrument to one Knowles, then the machinist of the Patent Office, pointed out its peculiarities, and called his particular attention to the suction bellows and the reed cells, and their relations to the concentrating chamber ; pointing out these things as his invention, by which he had obtained important results. He was told by Knowles that his complete instrument could not be received as a model, on account of its size. He thereupon put in his small model, which represented only the improvements on the bellows (covered by his present first claim), and his patent agent describing and representing in the drawings only what this model contained. Carhart's patent was taken without securing to him the cells

or the concentrating chamber. The instrument thus rejected by the Patent Office was taken by Knowles. It has since been traced from him to the Rev. James B. Donelan, who retained it until 1857, when it was recovered into the possession of the patentee for the purpose of exhibition to the Patent Office for obtaining the re-issue. It is now in Court. The proof is complete.

See page 21 of this brief.

It has not been controverted in argument, nor questioned in the opinion below, that the reed cells and concentrating chamber were part of the original invention of Carhart; or that he intended to secure them in his original patent; or that he failed to do so by inadvertence, accident, and mistake.

Why, then, cannot he have them secured to him now by re-issue?

The opinion below proceeds upon the ground that there is no competent evidence of the intention of a patentee to secure a thing by his original patent, except that it was contained in his original specification, or drawing, or model.

But the statute draws no such line as to the means by which the fact in question shall be proved. It provides simply that if the fact be so, it shall be lawful for the Commissioner to re-issue.

True, there are dangers in the admission of evidence *dehors* the patent or the Patent Office records. And that is a reason why Congress should legislate further, perhaps. But it is no reason why the Court should exclude any one kind of lawful evidence, and admit another; no reason why it should limit a right which the acts of Congress have given without limitation. To do so is not adjudication, but legislation.

If it be said that the requirement of the law that a description and drawings and model should be filed, implies that there can be no

amendment by re-issue which shall secure something not shown in either of these, the answer is that the argument proves too much. For the statute also requires him to specify and point out what he claims as new, and yet he may add to his *claim* by re-issue.

The requirement of model, drawing, and description is in order that the public may have the means of practising the invention after the patent expires. Doubtless, if a patentee put into his description matter originally known to him but not found in his drawing or model, and which matter is necessary to enable the public to practise the invention, the patent would not be void for insufficient description, although, it the description followed the drawing and model, it would be insufficient.

Is there any reason why such matter should not be added by way of re-issue, in order to enable the patentee to hold what he has claimed? And if not, is there any reason why it should not be so added to enable him to claim it?

The policy of the law is to relieve, in cases of honest mistake and accident, and to give to the inventor that which was part of his invention, — which he intended to secure, — which he would have secured but for accident and mistake, — and which the public holds from him without consideration.

Grant *v.* Raymond, 6 Peters, 242, 244.

I shall now endeavor to show that the weight of judicial authority is in favor of the position of the appellants.

Hussey Adm'x v. Bradley et al (not reported).

This was a suit in equity for injunction and account, founded on the Hussey reaper patent, and heard and decided by Mr. Justice Hall in the Northern District of New York. It was upon a re-issue of a re-issue of a re-issue. We are not able to say whether the device in controversy, as claimed in the last re-issue, was or was not described

or represented in the original patent; but it may be inferred that it was not, from the fact that the complainant introduced evidence showing that it was in the Patent Office model. The Court says, "It is well settled that in deciding upon these applications for re-issue, and the question whether the invention claimed in the re-issue is the same invention intended to be patented in the original application, the Commissioner of Patents is not confined to the claims, nor even to the examination of the evidence furnished by the specifications, models, and drawings accompanying the original application; and that any legal proof to show it to be the same invention, should be received;" and proceeds to say, upon the case then before it (after referring to the fact that the disputed device was proved to have been in the original Patent Office model), "We have no means of knowing what other proof was furnished to the Commissioner, or of determining that such other proof, considered in connection with such model, was not entirely conclusive upon the points of inadvertency or accident or mistake, and of an intention to patent originally the inventions covered by the re-issued patents. No proof of fraud, unfairness, or falsehood, in respect to these applications for re-issue has been given; and in the absence of such proof, we are bound under the authorities cited to presume that such re-issued patents were properly issued, and that they do in fact cover only the inventions made prior to, and intended to be patented under, the first application."

Goodyear v. Day, 2 Wallace, Jr., 223.

The original patent was for vulcanizing the triple compounds of India-rubber, sulphur, and lead, by the employment of a high degree of artificial heat; there was no need of lead, but the specification did not contain the most distant hint that it could be done by the use of India-rubber and sulphur alone without the lead. Application was made for the re-issue of that patent, and proof was furnished to the Commissioner of the correspondence between Goodyear and his agent, Dr. Jones, at Washington. In that correspondence Goodyear wrote

to his agent, in substance, that he had succeeded in indurating India-rubber so as to make its elasticity permanent under all changes of atmospheric temperature by mixing with it sulphur and lead, and submitting them to a high degree of artificial heat, that he could produce and had produced this result with India-rubber and sulphur alone, though the best results were obtained with India-rubber, sulphur, and lead. With that letter before him, the agent described only the treatment of the triple compound of India-rubber, sulphur and lead with a high degree of heat, and so limited the claim. And he omitted to state that the lead could be dispensed with. On this proof, the re-issue was granted. This very re-issue afterwards came before Mr. Justice Grier, and the point was made that the re-issue extended beyond the original patent; but the Court, on the proof we have stated, held the re-issue to be valid.

Stimpson v. West Chester R. R., 4 Howard, 380.

The plaintiff took a patent in 1831 for an improvement in the mode of turning short curves on railroads, and re-issued in 1835 and sued upon the re-issue. At the curve the inner rail was to be grooved to receive the flanges of the wheels of the car, the tread of the wheels running on the rails, and on the outside the flanges of the wheels ran on a flat rail. Without the grooved rail on the inner side of the curved track, to guide the flanges of the wheels, it was impossible to turn a curve. It was asserted that the original patent did not describe or represent the grooved rail, and the patent was re-issued to remedy that defect. At the time of applying for the original patent for this invention, Stimpson applied for and obtained another patent for grooved rails for street railroads. The original record of the patent of 1831 had been destroyed by fire in 1836.

The omission of the grooved rail in the original patent of 1831, and the introduction of it in the re-issue, was one of the defences set up in the suit. At the trial the Court instructed the jury that the original patent did not embrace the groove, and that the plaintiff had not made out a case of such inadvertence, accident, or mistake as justi-

fied the issue of the new patent, inasmuch as it appeared from the other patent, viz., for grooved rails, that he had known and described the grooves.

This Court, on error, held that the questions of what the original patent contained, and of the good faith of the patentee, should have been left to the jury as questions of fact. They say: "We think the Circuit Court erred in not leaving the jury to act upon the facts, as regards the difference between the original and the renewed patent. On the facts, we should draw a different conclusion from that which was given to the jury by the Circuit Court. An allusion to grooves in this specification, as more particularly described in the other patent, would at least *show the intention of the patentee*, if it did not make good his patent." p. 404.

It will be observed that the judge, at the trial, had instructed the jury as to two facts: 1. That the original patent did not show the grooves. 2. That the omission had not been by inadvertence; implying that both facts must be found, in order to defeat the reissue. And it will be observed that this Court adopt his view of what facts are to be found, while declaring him to have erred in not leaving the jury to find them; for they say that if the patentee did allude, in his original patent, to the grooves as being elsewhere described, that would at least show his intention.

The practice of the Patent Office, as shown by the course of decisions of the Circuit Court for the District of Columbia, has been according to the position now taken by the appellant, and this Court will not now disturb a rule so acted upon.

Dyson ex parte, Law's Dig., Tit. Re-issue of Patent, C. § 29, 32.
Wilson *v.* Singer, ibid. § 37.

We have shown the judicial decisions which seem to sustain the appellant's position. We are not aware of any which are adverse to it,

except that from which this appeal is taken, and one or two prior decisions by the same judge to the same effect.

The opinion in the decision appealed from misconceives, it is respectfully submitted, the ground on which the appellant's case is presented. It says that the "theory of the complainant, in fact, is that the decision of the Commissioner, except in cases of actual fraud, is conclusive that the new improvements described in the amended specification, and included in the claims of the re-issued patent, were a substantive part of the invention secured in the original patent." Certainly no such ground was taken in the argument. On the contrary, the closing argument for the complainant, as phonographically reported, contained the following:

"The learned counsel for defendant, in his printed brief, states the three positions which he presumes we will take. At bottom of page 4 and top of page 5, he says: The complainants may allege; 1st. That the patent of August 18th, 1857, does not cover new matter; 2d. That if there were such proof, the action of the Commissioner of Patents is conclusive; 3d. That proof, outside of the Patent Office, that the new matter claimed in the re-issue existed at the time of the original application, may be presented to and considered by the Commissioner.

"We do not contend for either the first or the second of these points, but we do contend that the third is sound in law."

The ground necessarily taken by the decision appealed from is, that the specification and drawings of the re-issue patent are conclusive that the improvements covered by the second and third claims were *not* a substantive part of the invention, which was intended to be secured by the original patent. From that we dissent, and we submit that it rests upon the single authority of the judge who decided the case below.

It may well be that where there is no evidence upon the question of intention to secure in the first instance, except the record of the original patent, the Court may examine that record, and, if it contain nothing going to show an intention to secure in that patent the dis-

puted device, may decide the re-issue claim for that device to be void. But in the case at bar, the Court below decided that no evidence *dehors* that record was competent at all.

This position is directly opposed to the whole drift of the case of Stimpson *vs.* West Chester R. R.

It is true that the re-issue cannot cover anything which was not part of the original invention and intended to be secured by the original patent.

French *vs.* Rogers, Mss. Grier *vs.* Kane, J. J., 1851.
Law's Dig. Statutes, Construction of, B. 3, Section 13 (3).

The argument thus far as to the legality of the re-issue relates exclusively to the second and third claims of the re-issue.

Its legality as to the first claim stands on wholly independent grounds, and may be affirmed, whether the second and third claims be held rightly granted or not.

If the second and third claims are void, they can be disclaimed, and the patent stand for the first claim. There has been no unreasonable neglect to disclaim; and the case is within the remedial law of disclaimer.

O'Reilly *vs.* Morse, 15 How. 120, 121.

The case of Vance *vs.* Campbell, 1 Black. 427, referred to in the opinion below, was a case where the plaintiff claimed a combination of a pipe with certain flues in a cooking-stove, and (the defendant having dispensed with one of the flues) attempted to hold his patent as being independent of the presence or absence of that particular flue. And the Court held that it could not be so construed. The case has no bearing upon the present.

In the case of Hall *vs.* Wiles, 2 Blatchford, 194, the Court held the patent for the good claims to be valid, although there had been no disclaimer, and although they were at least as much involved with the subject-matter of the bad claim, as the subject-matter of Carhart's first claim, as with that of his second and third claims.

The patent is to be deemed good and valid for the subject-matter of the first claim, if that subject-matter "be a material and substantial part of the thing patented, and be definitely distinguishable from the other parts so claimed without right," namely, the subject-matter of the second and third claim.

Patent Act of 1837, '59.

The opinion of the Court below declares that the first claim is "obviously founded chiefly upon the interpolations contained in the specification of the last re-issue, and the descriptive part is so mixed up with those new matters that it is impossible to separate the one from the other, and consequently the whole must stand or fall together."

This is a proposition not maintained by the defendant in the Court below, and consequently not argued by the complainant (appellant). He is now heard upon it for the first time.

The subject-matter of the first claim is having the reed board open directly into the exhaust chamber of a suction bellows, which chamber exhausts directly into the exhausting or pumping chamber, the reed board forming part of the stationary leaf of the exhaust chamber, and the middle leaf of the bellows being common to the two chambers thereof, thus dispensing with wind-chests or tube connections for conducting the air either from the reed board to the exhaust chamber, or from that to the exhausting or pumping chamber.

The subject matter of the second claim is the placing of a cell over each reed, so that the air shall pass into the cell and be gathered up at the inner end of it, and thence descend directly upon and by the tongue of the reed. It is for a local improvement superadded to the old reed board, with a view to improve the tone.

The subject-matter of the third claim is simply a board set up on edge opposite the outlets of the cells, forming, so to speak, a chamber or pen in which the sound is gathered up or concentrated, and thrown upwards and forwards towards the open parts of the instrument.

It is obvious that as matter of fact the cells may be taken away bodily, and the concentrating board may be taken away bodily, and then there will remain an instrument on which music can be played, — a melodeon, — which will nevertheless contain the arrangement of reed board and exhaust chamber and pumping chamber, which is the subject of the first claim.

How, then, can it be said that the subject-matter of the first claim

is not "definitely distinguishable" from the subject-matter of the second and third claim?

Suppose a defendant made instruments having the arrangement of reed board and exhaust chamber and pumping chamber, which is referred to in the first claim, but not having any cells over the reeds, and consequently not having any concentrating board set opposite to the cells, would the Court find any difficulty in charging such a defendant as an infringer of the first claim, if the subject-matter of it were new and useful? But if it is independent of the presence or absence of cells or concentrating board for the purposes of the question of infringement, why is it not independent of them for the purpose of saving it by a disclaimer of them?

It is true that the arrangement which is the subject of the first claim, itself helps the tone and speaking of the reeds, and he so states in his claim.

It is also true that by the use of the cells "the tone of the reeds is greatly improved, and their speaking accelerated, and the concentrating chamber also much increases its richness," and he so states in his specification.

But the mechanical devices in the three cases are clearly distinct.

In the opinion of the Court below, this is spoken of as a case of a patent which has been "expanded" by successive re-issues.

So far as regards the 2d and 3d claims, it is true that they relate to things never before claimed, or described by the patentee, and therefore they are certainly *additions* to the original patent. But they are additions frankly made, upon a full showing of all the facts to the Commissioner. And if he erred, the Court will undo his action.

If by "a process of expansion" be meant, the gradual enlarging of the boundaries of the invention on paper, by describing it more

and more comprehensively in successive re-issues, the term does not apply to what has been done in regard to the 2d and 3d claims.

So far as regards the 1st claim, there has been a gradual process carried through the three patents, — one original and two re-issues, which has been taken; but it has been a process of contraction, not of expansion.

In the original patent the inventor described himself as the first to make a reed instrument in which the air was drawn by suction on the reeds, instead of driven over them by blowing, and his claim was in accordance with that position.

In the first re-issue he claims what he had before claimed, only when acting in a certain way.

In the second (present) re-issue he claims the same things only when arranged in direct connection with each other. By this re-issue he limits his claim so that it will not embrace that class of instruments in which there are wind tubes connecting the exhaust chamber and pumping chamber; a class of instruments which would have been covered by either his first or second patent.

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